

SHARP®

LC-46XL1E

LC-46XL1S

LC-52XL1E

LC-52XL1S

LCD COLOUR TELEVISION

LCD-FARBFERNSEHGERÄT

TÉLÉVISION COULEUR À ÉCRAN

À CRISTAUX LIQUIDES (LCD)

TELEVISORE A COLORI LCD

LCD-KLEURENTELEVISIE

TELEVISIÓN EN COLOR LCD

OPERATION MANUAL

BEDIENUNGSANLEITUNG

MODE D'EMPLOI

MANUALE DI ISTRUZIONI

GEBRUIKSAANWIJZING

MANUAL DE MANEJO

ENGLISH

DEUTSCH

FRANÇAIS

ITALIANO

NEDERLANDS

ESPAÑOL

AQUOS



HD
ready

HDMITM
HIGH-DEFINITION MULTIMEDIA INTERFACE

tru**d**
POWERED BY MICRONAS

DVB
Digital Video
Broadcasting

100Hz
DOUBLE FRAME DRIVING



SPECIAL NOTE FOR USERS IN THE U.K.

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a 13A fuse. Should the fuse need to be replaced, a BSI or ASTA approved BS 1362 fuse marked  or  and of the same rating as above, which is also indicated on the pin face of the plug, must be used.

Always refit the fuse cover after replacing the fuse. Never use the plug without the fuse cover fitted.

In the unlikely event of the socket outlet in your home not being compatible with the plug supplied, cut off the mains plug and fit an appropriate type.

DANGER:

The fuse from the cut-off plug should be removed and the cut-off plug destroyed immediately and disposed of in a safe manner.

Under no circumstances should the cut-off plug be inserted elsewhere into a 13A socket outlet, as a serious electric shock may occur.

To fit an appropriate plug to the mains lead, follow the instructions below:

IMPORTANT:

The wires in the mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this product may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The wire which is coloured blue must be connected to the plug terminal which is marked N or coloured black.
- The wire which is coloured brown must be connected to the plug terminal which is marked L or coloured red.

Ensure that neither the brown nor the blue wire is connected to the earth terminal in your three-pin plug.

Before replacing the plug cover make sure that:

- If the new fitted plug contains a fuse, its value is the same as that removed from the cut-off plug.
- The cord grip is clamped over the sheath of the mains lead, and not simply over the lead wires.

IF YOU HAVE ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

OPERATION MANUAL

ENGLISH

- The illustrations and on-screen displays in this operation manual are for explanation purposes and may vary slightly from the actual operations.
- The examples used throughout this manual are based on the LC-52XL1E model.

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ENGLISH

Dear SHARP customer

Thank you for your purchase of the SHARP LCD colour TV product. To ensure safety and many years of trouble-free operation of your product, please read the Important Safety Precautions carefully before using this product.

Important Safety Precautions

- Cleaning—Unplug the AC cord from the AC outlet before cleaning the product. Use a damp cloth to clean the product. Do not use liquid cleaners or aerosol cleaners.
- Water and moisture—Do not use the product near water, such as bathtub, washbasin, kitchen sink, laundry tub, swimming pool and in a wet basement.
- Do not place vases or any other water-filled containers on this product. The water may spill onto the product causing fire or electric shock.
- Stand—Do not place the product on an unstable cart, stand, tripod or table. Doing so can cause the product to fall, resulting in serious personal injuries as well as damage to the product. Use only a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the product. When mounting the product on a wall, be sure to follow the manufacturer's instructions. Use only the mounting hardware recommended by the manufacturer.
- When relocating the product placed on a cart, it must be moved with utmost care. Sudden stops, excessive force and uneven floor surface can cause the product to fall from the cart.
- Ventilation—The vents and other openings in the cabinet are designed for ventilation. Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a bed, sofa, rug or other similar surface, since they can block ventilation openings. This product is not designed for built-in installation; do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions are followed.
- The LCD panel used in this product is made of glass. Therefore, it can break when the product is dropped or impact applied. If the LCD panel is broken, be careful not to be injured by broken glass.
- Heat sources—Keep the product away from heat sources such as radiators, heaters, stoves and other heat-generating products (including amplifiers).
- To prevent fire, never place any type of candle or naked flames on the top or near the TV set.
- To prevent fire or shock hazard, do not place the AC cord under the TV set or other heavy items.
- Do not display a still picture for a long time, as this could cause an afterimage to remain.
- There is power consumption always if main plug is connected.
- Servicing—Do not attempt to service the product yourself. Removing covers can expose you to high voltage and other dangerous conditions. Request a qualified person to perform servicing.



The LCD panel is a very high technology product, giving you fine picture details. Due to the very large number of pixels, occasionally a few non-active pixels may appear on the screen as a fixed point of blue, green or red. This is within product specifications and does not constitute a fault.

Precautions when transporting the TV

When transporting the TV, never carry it by holding onto the speakers. Be sure to always carry the TV by two people holding it with two hands — one hand on each side of the TV.

WARNING:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

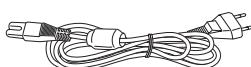
Trademarks

- "HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC."
- truD is a registered trademark of Micronas in Germany and other countries.
- The "HD ready" Logo is a trademark of EICTA.
- The DVB logo is the registered trademark of the Digital Video Broadcasting - DVB - project.

Supplied accessories

AC cord (×1)

(For Europe, except
U.K. and Eire)



(For U.K. and Eire)



U.K. type 3-pin AC cord is only included
with models LC-46XL1E,
LC-52XL1E.

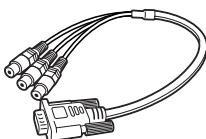
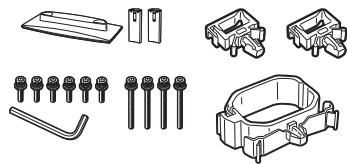
Page 4

Cable tie (×1)

Stand unit
(×1)

Cable clamp
(Small ×2, Large ×1)

3 RCA to 15-pin
D-sub adapter
(×1)



Page 4

Page 3

Page 4

Page 10

- "AAA" size battery (×2).....Page 6
- Operation manual (This publication)

- Remote control unit (×1).....Pages 6 and 7

Quick guide

Attaching the stand

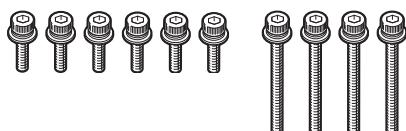
Before performing work spread cushioning over the base area to lay the TV on, making sure the area is completely flat. This will prevent it from being damaged.

Before attaching (or detaching) stand, unplug the AC cord from the AC INPUT terminal.

CAUTION

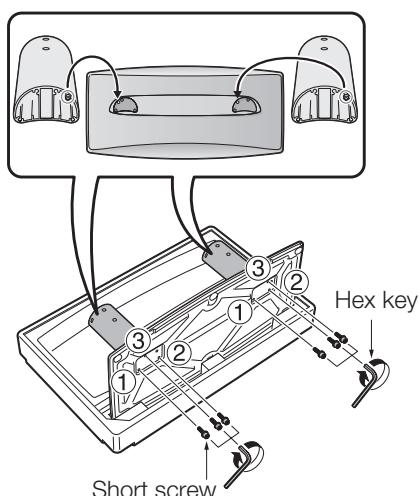
- Attach the stand in the correct direction.
- Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.

1 Confirm that there are 10 screws (6 short screws and 4 long screws) supplied with the TV.



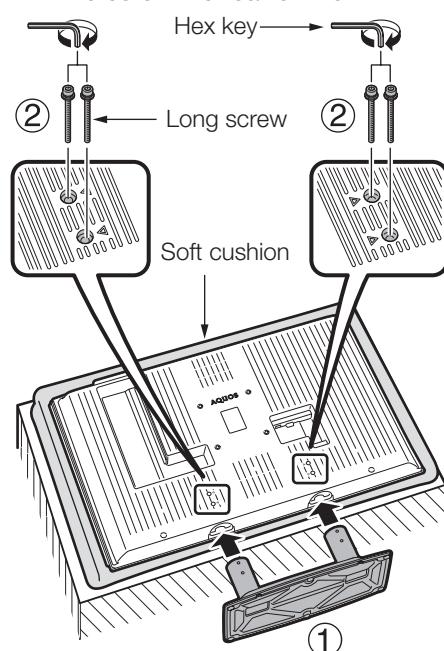
2 Attach the two supporting posts for the stand unit onto the base using the box for the stand unit as shown below.

(Close-up of the upper side of the stand unit)



3 ① Insert the stand into the openings on the bottom of the TV.

② Insert and tighten the 4 long screws into the 4 holes on the rear of the TV.



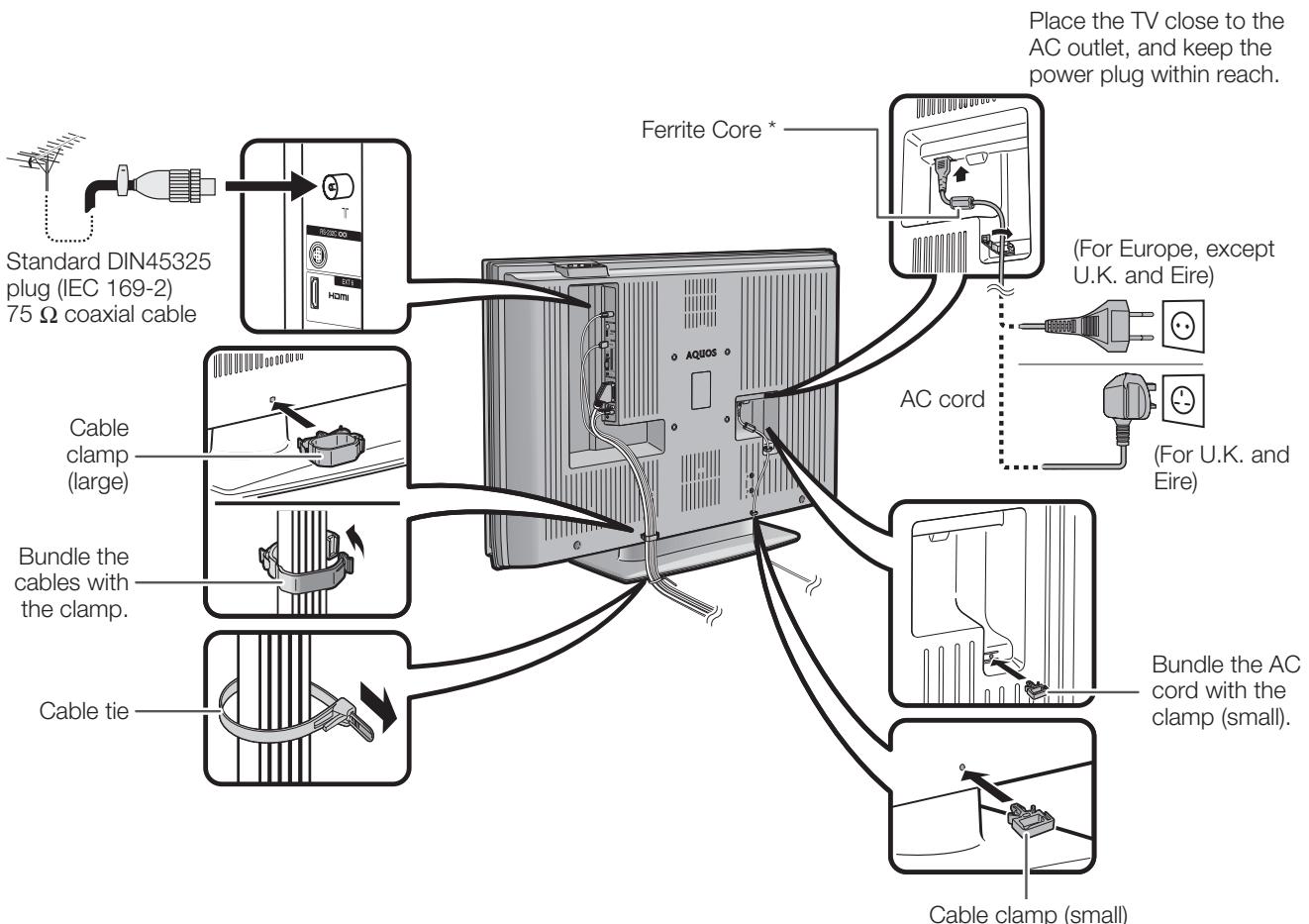
NOTE

- To detach the stand, perform the above steps in reverse order.

1 Insert each of the protrusions on the two supporting posts into the openings on the upper side of the base.

2 Insert and tighten the 6 short screws with the hex key (supplied with the product) in the order of ①, ② and ③.

Setting the TV



Antenna

Connect the antenna cable from your antenna-/cable socket or the (room-/roof) antenna for antenna input terminal on the back of your TV set to receive digitally/terrestrially broadcast stations.

An indoor antenna can also be used under good reception conditions. Passive and active room antennas are offered commercially. In an active antenna its power is supplied via the antenna input terminal.

The supply voltage (5V) must be correspondingly set under "Supply voltage". (Page 19)

* Ferrite Core

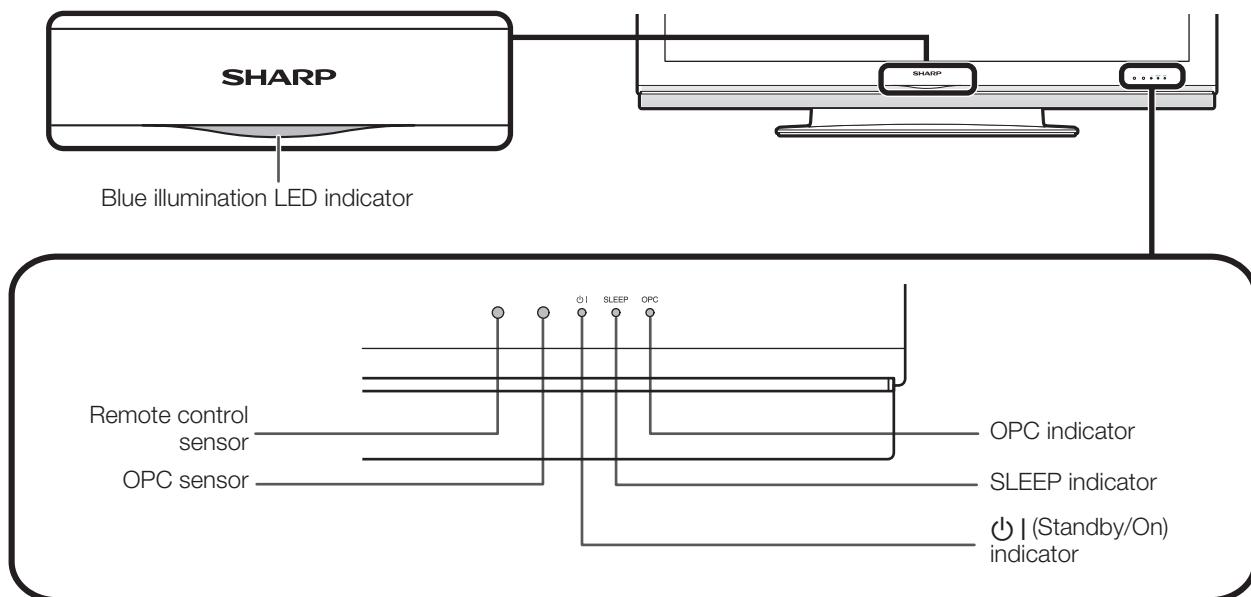
The Ferrite Core should be permanently attached and never removed from the AC cord.

Setting the TV on the wall

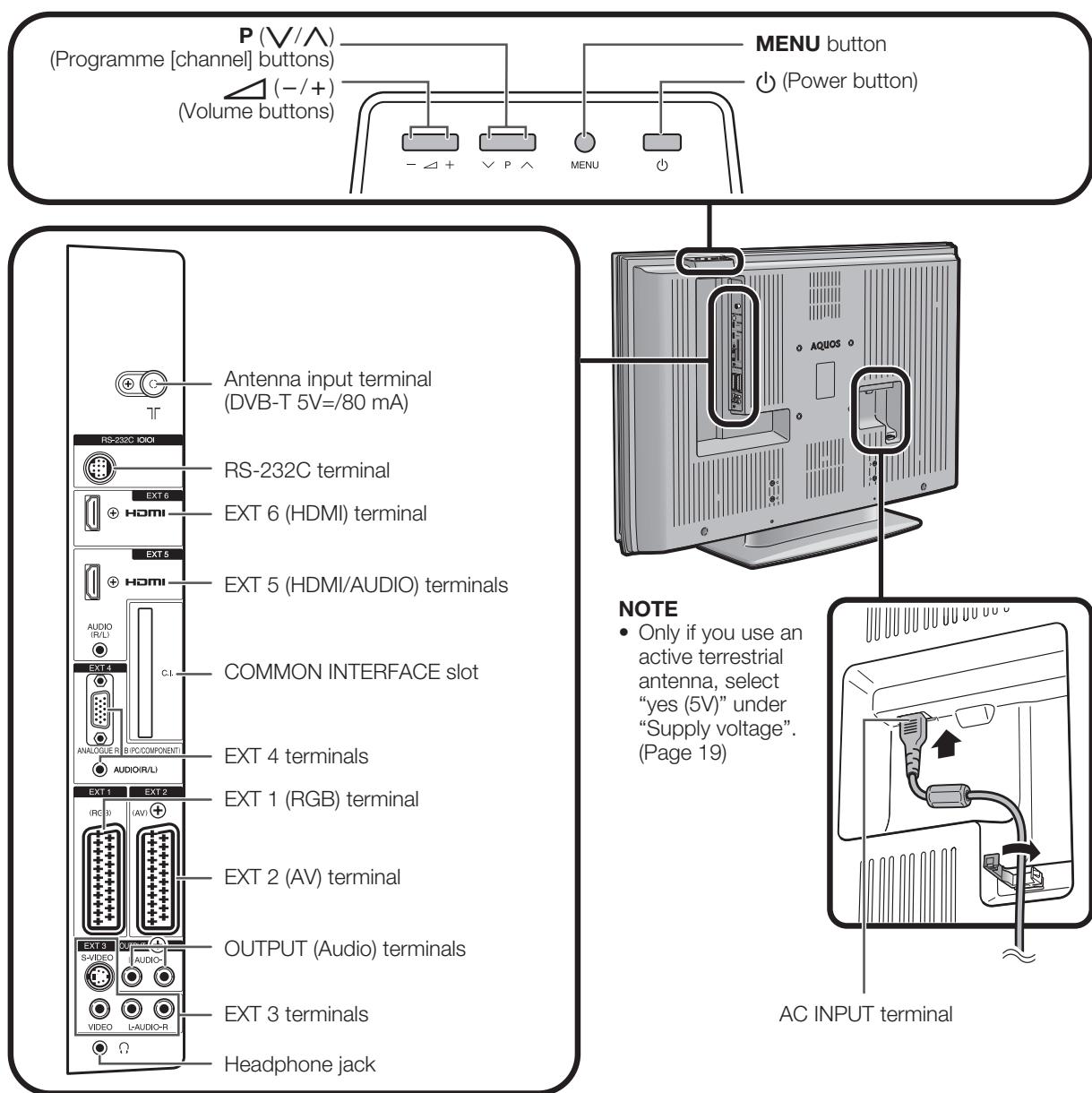
- **This TV should be mounted on the wall only with the wall mount bracket available from SHARP. (See page 43.) The use of other wall mount brackets may result in an unstable installation and may cause serious injuries.**
- **Installing the LCD Colour TV requires special skill that should only be performed by qualified service personnel. Customers should not attempt to do the work themselves. SHARP bears no responsibility for improper mounting or mounting that results in accident or injury.**
- You can ask a qualified service personnel about using an optional bracket to mount the TV to the wall.

Quick guide

TV (Front view)



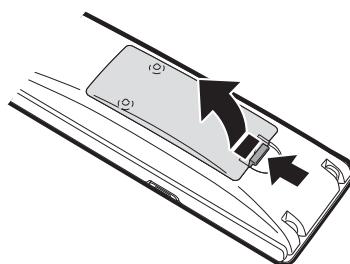
TV (Rear view)



Inserting the batteries

Before using the TV for the first time, insert two "AAA" size batteries (supplied). When the batteries become depleted and the remote control unit fails to operate, replace the batteries with new "AAA" size batteries.

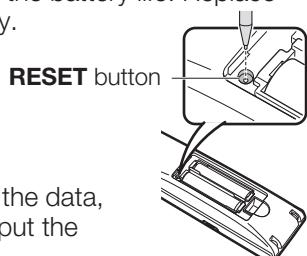
- 1 Press and slide the battery cover to open it.
- 2 Insert two supplied "AAA" size batteries.
 - Place batteries with their terminals corresponding to the (+) and (-) indications in the battery compartment.
- 3 Close the battery cover.



CAUTION

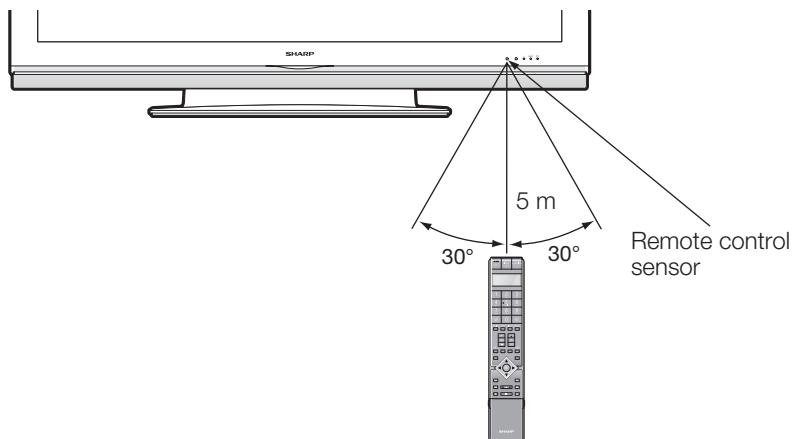
Improper use of batteries can result in chemical leakage or explosion. Be sure to follow the instructions below.

- Do not mix batteries of different types. Different types of batteries have different characteristics.
- Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.
- Remove batteries as soon as they have worn out. Chemicals that leak from batteries can cause a rash. If you find any chemical leakage, wipe thoroughly with a cloth.
- When replacing the batteries, use alkaline batteries instead of manganese ones.
- Do not overuse the light-up function by using **LIGHT** button, doing so may shorten the battery life. Replace the batteries when the light on LCD window or light-up function become weak or blurry.
- Do not continue to use the remote control unit with batteries running low. This may result in error message or malfunction. Should this happen replace the batteries and leave it unused for a while. Otherwise, you may open the rear battery cover and press the **RESET** button. When you press the **RESET** button, your Universal remote control settings will be deleted.
- The remote control unit has a internal memory of external devices. In order not to lose the data, replace the batteries quickly. If the manufacturer code is initialised and lost, you can input the manufacturer code again. (See page 37.)
- The batteries supplied with this product may have a shorter life expectancy due to storage conditions.
- If you will not be using the remote control unit for an extended period of time, remove the batteries from it.



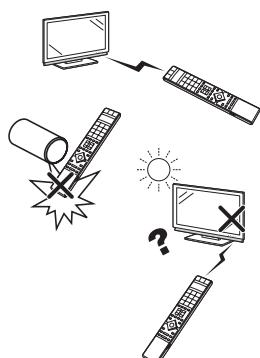
Using the remote control unit

Use the remote control unit by pointing it towards the remote control sensor. Objects between the remote control unit and sensor may prevent proper operation.



Cautions regarding the remote control unit

- Do not expose the remote control unit to shock.
In addition, do not expose the remote control unit to liquids, and do not place in an area with high humidity.
- Do not install or place the remote control unit under direct sunlight. The heat may cause deformation of the unit.
- The remote control unit may not work properly if the remote control sensor of the TV is under direct sunlight or strong lighting. In such case, change the angle of the lighting or TV, or operate the remote control unit closer to the remote control sensor.



Quick guide

Remote control unit

NOTE

- The symbols **DVD**, **STB** and **VCR** indicate that the buttons become available in respective operating mode when using as a universal remote control.

1 (TV Standby/On) **DVD STB VCR**
(Page 8)

2 **LIGHT** **DVD STB VCR**

When pressed buttons that are frequently used (**P** \wedge/\vee , $+/ -$, **0 - 9** numeric buttons, and) will light. The lighting will turn off if no operations are performed within about 5 seconds. This button is used for performing operations in low-light situations.

3 **FUNCTION** **DVD STB VCR**

Press this button briefly (for more than 0.2 second), and the remote control switches for DVD, SetTopBox or VCR operation and currently controlled device will be indicated in the LCD window. See page 37 for how to use this unit as a universal remote control.

4 **LCD window** **DVD STB VCR**

This screen shows which device you are currently controlling. (TV, DVD, STB or VCR).

5 **0 - 9** **STB**

Set the channel in TV and DTV mode. Enter the desired numbers or letters. Set the page in Teletext mode.

6 (Flashback)

Press to return to the previous image in normal viewing mode.

7 **DTV MENU**

DTV: Display DTV Menu screen.

8 **DTV**

Press to access DTV mode while watching other input sources, and vice versa.

(Will not work if you were watching DTV immediately before turning off the TV. In this case first select any other input source except DTV using the button.)

9 (+/-) (Volume) **DVD STB VCR**

Increase/decrease TV volume.

10 (Mute) **DVD STB VCR**

TV sound on/off

11 **Colour (Red/Green/Yellow/Blue)**

TELETEXT: Select a page. (Page 25)

The coloured buttons are used to select correspondingly to the coloured items in the menu screen.

12 (Cursor) **DVD**

Select a desired item on the setting screen.

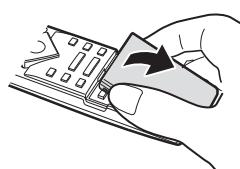
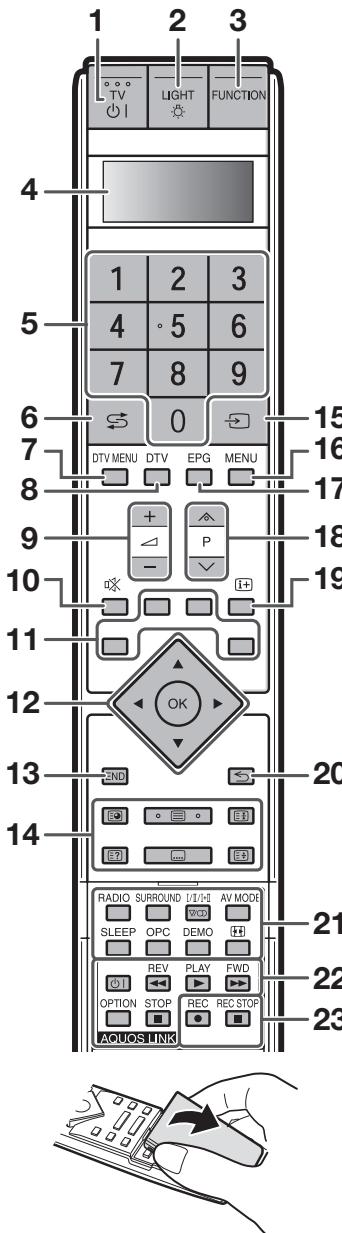
OK **DVD STB**

TV/DTV/DVD/STB: Execute a command within the menu screen.

TV/DTV: Display the station list in analogue mode and the programme list in DTV mode.

13 **END**

Exit the menu screen.



14 **Buttons for teletext**

(Subpage)

(Page 25)

(Teletext)

TV: Display the analogue teletext. (Page 24)
DTV: Select DTV data broadcasting and TELETEXT. (Page 35)

(Freeze/Hold)

(Page 25)

(Reveal hidden Teletext)

(Pages 24 and 25)

(Subtitle for Teletext)

TV/External: Subtitle on/off. (Page 25)

DTV: Display the subtitle selection screen. (Page 35)

(Top/Bottom/Full)

Set the area of magnification in analogue teletext mode. (Page 25)

15 (INPUT SOURCE)

Select an input source. (TV, DTV, EXT1, EXT2, EXT3, EXT4, EXT5, EXT6) (Page 22)

16 **MENU** **DVD**

TV: MENU screen on/off. (Page 15)
DVD: Title menu on/off.

17 **EPG**

DTV: To display EPG (Electronic Programme Guide) screen.

18 **P** (\wedge/\vee) **DVD STB VCR**

Select the TV channel. In analogue TV mode, external input sources (EXT 1 - 6) can also be selected.

19 (Display information)

(Pages 21, 22, 33 and 34)

20 (Return)

Return to the previous menu screen.

21 **Buttons for other useful features**

Flip open the remote control cover on the front.

RADIO

DTV: Switch between RADIO and DTV mode.

SURROUND

Surround effects on/off.

(Sound mode)

Select the sound multiplex mode. (Page 9)

AV MODE

Select a video setting. (Page 22)

SLEEP

Set the sleep timer on (in units of 30 min. up to max. 2hr. 30min) and off. (If the "Time and date" screen is displayed, enter the time and date as explained on page 21, and set the sleep timer again.)

OPC

To switch the Optical Picture Control on and off. (Page 22)

DEMO

Demonstrate the 100Hz effects in a dual screen format. (Page 17)

(Wide modes)

Select the wide mode. (Page 23)

AQUOS LINK buttons **DVD VCR**

If external equipment such as AQUOS BD Player is connected via HDMI cables and AQUOS LINK compatible, you can use these AQUOS LINK buttons. See page 12 for details.

In DVD or VCR mode, press **OPTION** to pause the picture.

Not available when operating STB except powering on the device.

REC and **REC STOP** buttons **DVD VCR**

Quick guide

Turning on the power

Press  on the TV.

Standby mode

Press  on the remote control unit when the TV is on.

- The TV enters standby mode and the image on the screen disappears.
- The  indicator on the TV changes from green to red.
- To completely turn off the power to the TV, unplug the AC cord from the AC outlet. However, do not unplug the AC cord unless otherwise instructed.

Display status indicator

Off	Power off
Red	The TV is in standby mode.
Green	The TV is on.

NOTE

- If you are not going to use this TV for a long period of time, be sure to remove the AC cord from the power outlet.
- Weak electric power is still consumed even when  is turned off.
- In DTV input mode, if the power is turned off immediately after a setting change from the menu screen, the new setting or channel information may not be memorised.

Initial auto installation (Analogue)

When the TV powers on for the first time after purchase, the initial auto installation (Analogue) is invoked. Follow the menus and make the necessary settings one after another.

NOTE

- To reconfigure the initial auto installation settings, go to "Channels" and run "Search wizard" from the Setup menu. (Page 19)

- 1 **Setting the on-screen display language**
 - ① Press  to select the desired language listed on the screen.
 - ② Press **OK** to enter the setting.
- 2 **Setting the country ("Location of TV set" screen)**
 - ① Press  to select your country or area listed on the screen.
 - ② Press **OK** to enter the setting.
 - An overview of settings to be used for auto search displays.
- 3 **Press **OK** to start the search.**
 - The TV searches for, sorts and stores all the receivable TV stations according to their settings and the connected antenna.
 - To abort the initial auto installation in progress, press **END**.
- 4 **When the auto sorting is completed, the item "Decoder" displays. Press  to select "EXT 1" or "EXT 2", and then press **OK**.**
 - Make sure to select the terminal (EXT 1 or 2) to which the decoder is connected.
- 5 **A message appears indicating that the first installation is successfully completed. Press **OK**, if necessary.**
 - If a recording device with AV-Link is connected to EXT 2, the TV automatically starts transferring the station list data to the recording device.

Initial auto installation (DTV)

Digital Video Broadcasting is a transmission scheme. It is much more than a simple replacement for existing analogue television transmission. DVB provides more stations, clearer picture quality and other services displayed on the screen. It also allows a range of new features and services including subtitles and multiple audio tracks.

To watch DTV broadcasts, follow the procedures below to scan all available services in your area.

NOTE

- **Make sure to perform Initial auto installation (Analogue) outlined in the preceding section as well, even if you intend to view only DTV broadcasts.**

- 1 Press **DTV** (or , then  to select "DTV", and then press **OK**) to access the DTV mode.
- 2 Press **DTV MENU** and the DTV Menu screen displays.
- 3 Press  to select "Installation".
- 4 Press  to select "Auto Installation", and then press **OK**.
If you have already set the PIN, enter it here. If not, enter the factory preset PIN "1234".
 - See page 20 for setting PIN.
 - A confirmation message displays. Press  to select "Yes", and then press **OK** to start the search.
- 5 The TV starts scanning all available DTV and radio services in your area.

NOTE

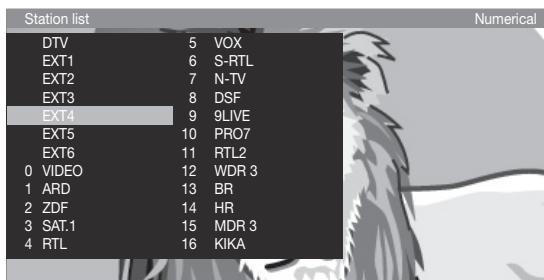
- The language and country settings used in this operation are the settings you have already set while executing the **Initial auto installation (Analogue)**. If you want to reconfigure the country setting, for instance after moving to another country, conduct "Search wizard" from the Analogue Menu again. (Page 19)
- The DTV services are searched and stored according to the channel number information embedded in the TV signal (if available). If the information is not available, the services are stored according to the order in which they were received. If you would like to sort the order, it is possible to arrange it as explained in page 28.
- To cancel the scan in progress, press **END**.
- You cannot select any DTV-related menu items unless "Auto Installation" has been completed.

Channel selection using the station list (Analogue)

This section explains how to change/delete/move/rename stations using the analogue Station List. If you are watching DTV, refer to the “Using the digital programme list” section. (Page 34)

You can also select the desired channel from station list instead of using **0 – 9** numeric buttons or **P (▲/▼)**.

- 1 In analogue TV mode, press **OK** when no other menu screen is active.



- 2 Press **▲/▼/◀/▶** or **0 – 9** to select the desired station in the station list, and then press **OK** to tune in the station.
 - Press **Blue** to sort the list according to “Alphabetical” or “Numerical”.
 - Refer to the following table for how each numeric button is assigned a set of characters.

NOTE

- This function cannot be operated when the selected input source is HDMI.

To delete, move, and rename stations from the station list

While in the station list, press **Yellow** (Change stations).

Delete

Select a station to delete, and then press **Red** (Delete). Mark more stations with **▲/▼/◀/▶** or **0 – 9**, if desired. Confirm with **OK** or cancel with **Red**.

Move

Select a station to move, and then press **Yellow** (Move). Mark more stations with **▲/▼/◀/▶** or **0 – 9**, if desired. Press **OK** to finish marking. Press **▲/▼/◀/▶** or **0 – 9** to select the position to move to. Confirm with **OK** or cancel with **Yellow**.

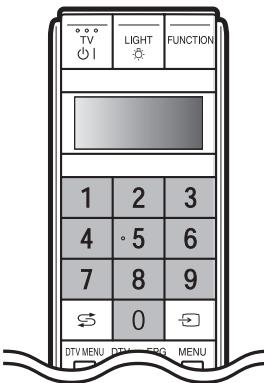
- Make sure to select the appropriate block of channels or destination when moving.

Rename

Select a station to rename, and then press **Blue** (Rename). Press any of the numeric buttons **0 – 9** to select the desired character. Remember to press and toggle the numeric button quickly, for the transition to the next digit is rather quick. Repeat until the new name is fully spelt out. Confirm with **OK** or cancel with **Blue**.

- The name can be up to 8 characters.

Entering characters using the 0 – 9 buttons



Buttons	Assigned characters and numbers
0	0
1	1, +, -, . (dot), (space)
2	A, B, C, 2
3	D, E, F, 3
4	G, H, I, 4
5	J, K, L, 5
6	M, N, O, 6
7	P, Q, R, S, 7
8	T, U, V, 8
9	W, X, Y, Z, 9

Using $\frac{I}{V} \frac{II}{V} \frac{I+II}{V}$ on the remote control unit

DTV mode:

Press $\frac{I}{V} \frac{II}{V} \frac{I+II}{V}$ to open the multi audio screen. (Page 35)

Analogue TV mode:

Each time you press $\frac{I}{V} \frac{II}{V} \frac{I+II}{V}$, the mode switches as illustrated in the following tables.

NICAM TV broadcasts selection	
Signal	Selectable items
Stereo	Stereo, Mono!
Bilingual	Dual-channel Sound 1, Dual-channel Sound 2, Dual-channel Sound 1+2, Mono!
Monaural	NICAM, Mono!
A2 TV broadcasts selection	
Signal	Selectable items
Stereo	Stereo, Mono!
Bilingual	Dual-channel Sound 1, Dual-channel Sound 2, Dual-channel Sound 1+2
Monaural	Mono

NOTE

- When no signal is input, the sound mode will display “Mono”.
- “Mono!” indicates that you have manually changed to FM mono.

Using external equipment

Setting the input source

To view external source images, select the input source using  on the remote control unit. (Page 22)

NOTE

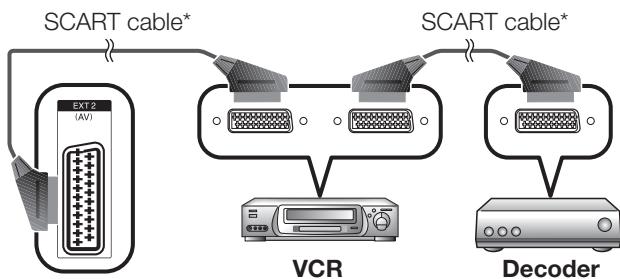
- The cables marked with * are commercially available items.
- TV-OUT from EXT 1 outputs DTV image when DTV is selected as the input. Otherwise it constantly outputs analogue TV image.
- MONITOR OUTPUT from EXT 2 outputs audio only when EXT 4, 5 and 6 is selected as the input.

INPUT SOURCE
TV
DTV
EXT1
EXT2
EXT3
EXT4
EXT5
EXT6

Connecting a VCR

You can use the EXT 2 terminal when connecting a VCR and other recording equipment.

If your VCR supports TV-VCR advanced AV Link systems, you can connect the VCR using the fully-wired SCART cable.



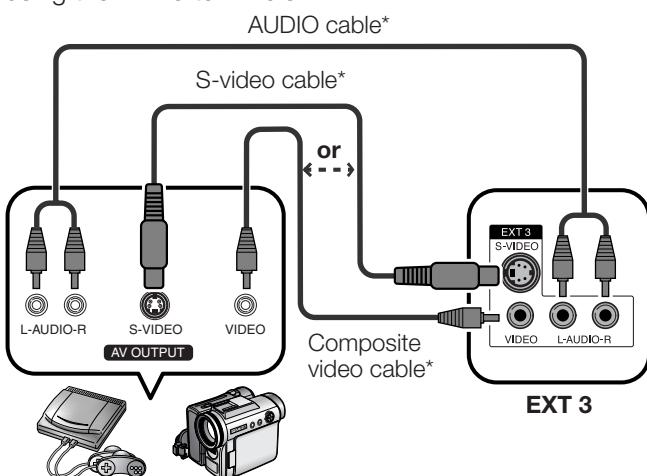
EXT 2 (recommended)

NOTE

- If the above is your connection, make sure to select "EXT 2" under the menu item "Decoder" when you run the Initial auto installation (Analogue) (Page 8) or when changing the setting later (Page 18).
- TV-VCR advanced AV Link systems may not be compatible with some external sources.

Connecting a game console or camcorder

A game console, camcorder and some other audiovisual equipment are conveniently connected using the EXT 3 terminals.



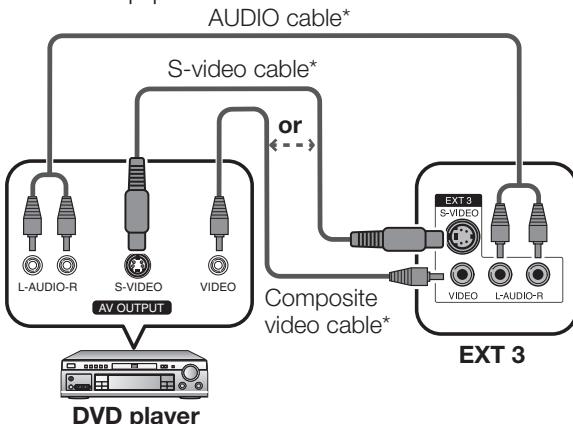
Game console Camcorder

NOTE

- EXT 3: The S-VIDEO terminal has priority over the VIDEO terminals.

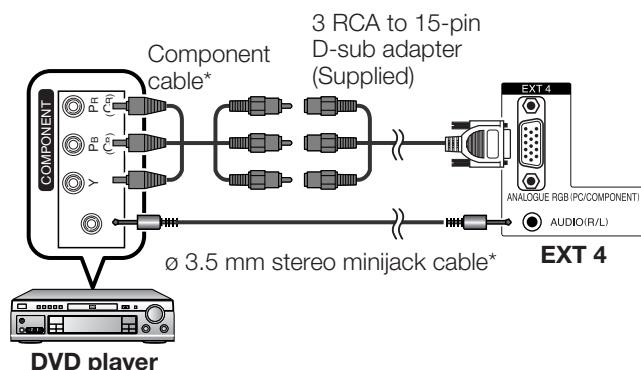
Connecting a DVD player

You can use the EXT 3, 4, 5 (HDMI) or 6 (HDMI) terminals when connecting to a DVD player and other audiovisual equipment.

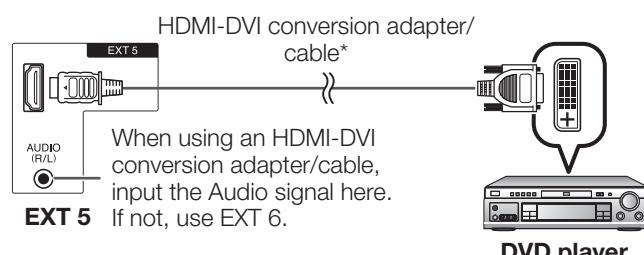


NOTE

- EXT 3: The S-VIDEO terminal has priority over the VIDEO terminals.

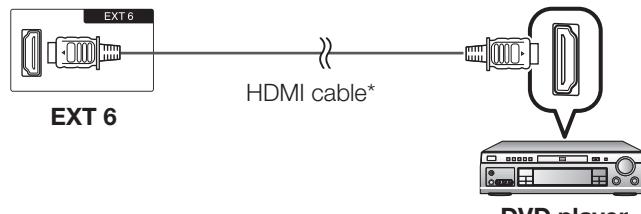


DVD player



NOTE

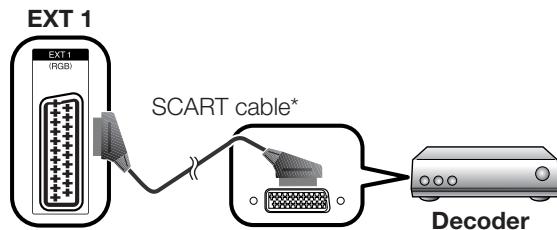
- When connecting an HDMI-DVI conversion adapter/cable to the HDMI terminal, the image may not come in clearly.



Using external equipment

Connecting a decoder

You can use the EXT 1 terminal when connecting a decoder and other audiovisual equipment.

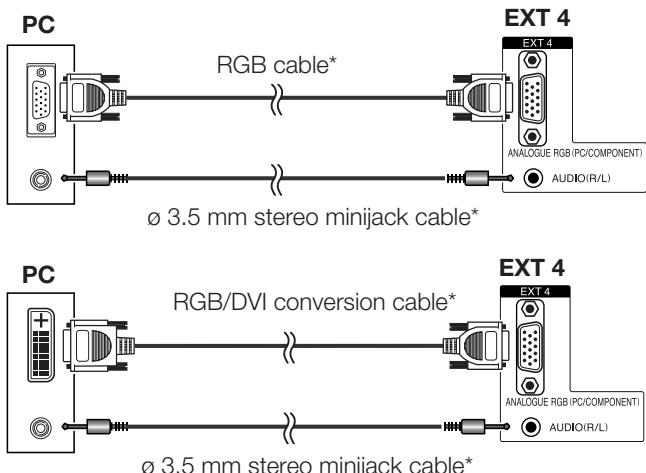


NOTE

- If the above is your connection, make sure to select "EXT 1" under the menu item "Decoder" when you run the Initial auto installation (Analogue) (Page 8) or when changing the setting later (Page 18).

Connecting a PC

Use the EXT 4 terminals to connect a PC.



NOTE

- The cables marked with * are commercially available items.
- The PC input terminals are DDC1/2B-compatible.
- Refer to page 41 for a list of PC signals compatible with the TV.
- Macintosh adaptor may be required for use for some Macintosh computers.
- When connecting to a PC, the correct input signal type is automatically detected.

HDMI connection

The HDMI connections (High Definition Multimedia Interface) permit digital video and audio transmission via a connection cable from a player.

The digital picture and sound data are transmitted without data compression and therefore lose none of their quality. Analogue/digital conversion is no longer necessary in the connected devices, which also would result in quality losses.

HDMI/DVI conversion

Using a DVI/HDMI adapter cable, the digital video signals of a DVD can also be played via the compatible HDMI connection. The sound must be fed in additionally. (Page 10)

HDMI and DVI both use the same copy protection method HDCP.

NOTE

- Video noise may occur depending on the type of HDMI cable used. Make sure to use certified HDMI cable.
- When playing the HDMI image, the best possible format for the picture will be detected and set automatically.

Supported video signal:

VGA, 625i (576i), 625p (576p), 525i (480i), 525p (480p), 1125i (1080i), 750p (720p), 1125p (1080p)

If a connected HDMI device is AQUOS LINK compatible, you can take advantage of versatile functions using the AQUOS LINK buttons on the remote control.

See pages 12 - 14 for details.

Using external equipment

Controlling HDMI devices using AQUOS LINK

What is AQUOS LINK?

Using the HDMI CEC (Consumer Electronics Control) protocol, with AQUOS LINK you can interactively operate compatible system devices (AV amplifier, DVD, Blu-ray Disc device) using a single remote control.

NOTE

- AQUOS LINK-compatible AQUOS BD Player, AQUOS Audio speaker system and AQUOS Recorder will be on sale after the release of this TV. (As of May 2007)

What you can do with AQUOS LINK

✓ One Touch Play

While the TV is in standby mode, it automatically turns on and plays back the image from the HDMI source.

✓ Single remote control operation

The AQUOS LINK automatically recognises the connected HDMI device and you can control the TV and the devices as if using a universal remote control.

✓ Operating Title list of external device

You can call up the external player's Top Menu or the external recorder's Title list provided that the devices support AQUOS LINK.

✓ Multiple control of HDMI devices

You can select which HDMI device to operate using the **OPTION** button.

NOTE

- Point the remote control toward the TV, not to connected HDMI device.
- Video noise may occur depending on the type of HDMI cable used. Make sure to use a certified HDMI cable.
- Up to 3 HDMI recording devices, one AV amplifier and two players can be connected using this system.
- These operations affect the HDMI device selected as the current input source. If the device does not operate, turn on the device and select the appropriate input source using .

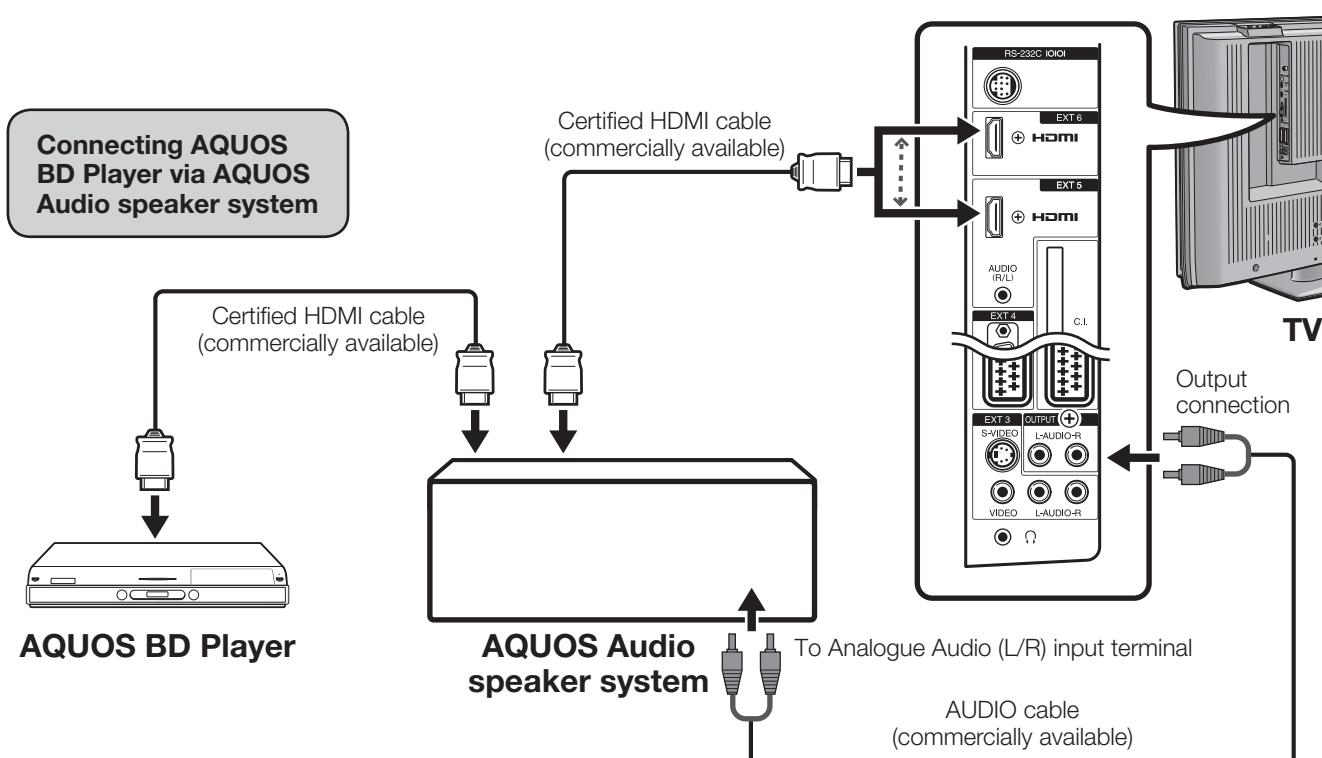


Connecting HDMI device to TV

First connect the AQUOS Audio speaker system or an AQUOS BD Player that supports HDMI CEC protocol.

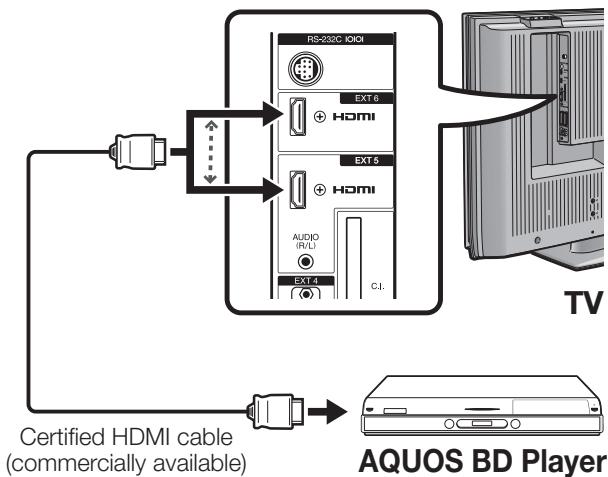
NOTE

- Refer to the operation manual of the device to be connected for further details.
- After unplugging connection cables or changing the connection pattern, first turn on the power of the TV with all relevant device's power turned on. Change the external input source by pressing , select the appropriate external source and verify the audiovisual output.



Using external equipment

Connecting an AQUOS BD Player only

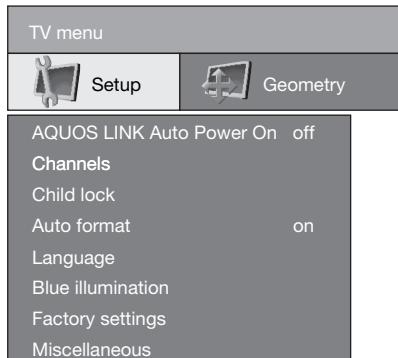


AQUOS LINK Auto Power On

If this is activated, the One Touch Play function is enabled.

While the TV is in standby mode, it automatically turns on and plays back the image from the HDMI source.

- 1 Press **MENU** and the TV menu screen displays.
- 2 Press **◀/▶** to select “Setup”, and then press **OK**.



- 3 Press **▲/▼** to select “AQUOS LINK Auto Power On”.
- 4 Press **◀/▶** to select “on”, and then press **OK**.

NOTE

- The factory default for this item is “off”.

Operating an AQUOS LINK device

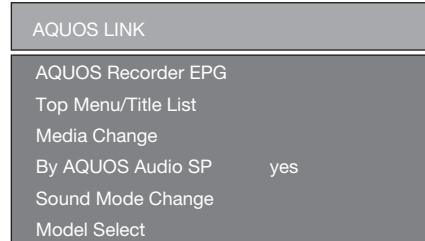
AQUOS LINK allows you to operate the HDMI-connected device with one remote control.

- 1 Open the remote control’s flip cover.
- 2 Press **PLAY ▶** to start playback of a title.
 - See page 14, section “**Playback of titles using AQUOS LINK**” if you want to start playback using the list of the titles of the AQUOS BD Player.
- 3 Press **FWD ▶▶** to fast forward.
Press **REV ◀◀** to reverse.
Press **STOP ■** to stop.
Press **□** to turn the HDMI-connected device on/off.

Listening with the AQUOS Audio speaker system

You can opt to listen to the TV sound only from the AQUOS Audio speaker system and manually change its sound mode.

- 1 Open the remote control’s flip cover.
- 2 Press **OPTION**.



- 3 Press **▲/▼** to select “By AQUOS Audio SP”.
- 4 Press **◀/▶** to select “yes”.
 - Select “no” to listen to the TV sound.
 - The sound from the TV speaker and headphone terminal is muted and only the sound from the AQUOS Audio speaker system is audible.
 - You can control the AQUOS Audio Speaker system’s volume (**◀/+/-**) and mute functions (**□**).

Manually changing AQUOS Audio speaker system’s sound mode

- 1 Open the remote control’s flip cover.
- 2 Press **OPTION**.
 - The AQUOS LINK menu displays.
- 3 Press **▲/▼** to select “Sound mode change”.
- 4 The sound mode changes every time you press **OK**.
 - Refer to the operation manual of the AQUOS Audio speaker system for details.

Using external equipment

Playback of titles using AQUOS LINK

This section explains how to play back a title in the AQUOS BD Player.

- 1 Power on the AQUOS BD Player, select appropriate external input source using .
- 2 Open the remote control's flip cover.
- 3 Press **OPTION**.
 - The AQUOS LINK menu displays.
- 4 Press **▲/▼** to select "Top Menu/Title List", and then press **OK**.
 - The title list data from the connected AQUOS BD Player displays.
 - You can use **END**, , **OK**, **▲/▼/◀/▶** and the coloured buttons.
- 5 Select the title with **▲/▼/◀/▶**, and then press **PLAY** .

Selecting media type for CEC-compatible recorder

If your recorder has multiple storage media, select the media type here.

- 1 Open the remote control's flip cover.
- 2 Press **OPTION**.
 - The AQUOS LINK menu displays.
- 3 Press **▲/▼** to select "Media change".
- 4 Select the desired medium, such as DVD or HDD. The media type changes every time you press **OK**.

HDMI device selection

If multiple HDMI devices are connected in a daisy chain, you can specify which device to control here.

- 1 Open the remote control's flip cover.
- 2 Press **OPTION**.
 - The AQUOS LINK menu displays.
- 3 Press **▲/▼** to select "Model select" and then press **OK**. The HDMI device changes every time you press **OK**, and the menu screen goes out.

Recording via the AQUOS Recorder EPG (only for recorder)

You can call up the CEC-compatible recorder's EPG and preset timer recordings using the TV's remote control.

- 1 Power on the AQUOS BD Player, select appropriate external input source using .
- 2 Open the remote control's flip cover.
- 3 Press **OPTION**.
 - The AQUOS LINK menu displays.
- 4 Press **▲/▼** to select "AQUOS Recorder EPG", and then press **OK**.
 - The recorder's EPG is displayed.
 - You can use **END**, , **OK**, **▲/▼/◀/▶** and the coloured buttons.
- 5 Select the programme to record.
 - Refer to the operation manual of the recorder for details.

Using AV Link function

This TV incorporates four typical AV Link functions for smooth connections between the TV and other audiovisual equipment.

One Touch Play

While the TV is in standby mode, it automatically turns on and plays back the image from the audiovisual source (e.g. VCR, DVD).

TV Standby

When the TV enters standby mode, the connected audiovisual equipment (e.g. VCR, DVD) enters standby mode as well.

WYSIWYR (What You See Is What You Record)

When the remote control unit of the connected VCR has the WYSIWYR button, you can automatically start recording by pressing the WYSIWYR button.

Preset Download

Automatically transfers the channel preset information from the tuner on the TV to the one on the connected audiovisual equipment (e.g. VCR) via the EXT 2 terminal.

NOTE

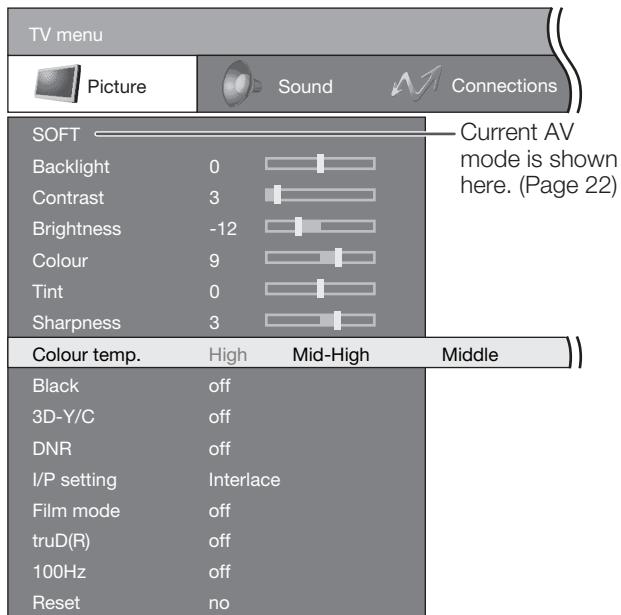
- Refer to operation manuals of each external equipment for the details.
- Only works when the audiovisual equipment is connected to the EXT 2 terminal on the TV with AV Link via a fully wired SCART.
- The use of the AV Link function is only possible if the TV-set has enforced a complete auto-installation with the connected audiovisual equipment (Page 8, initial auto installation).

The availability of the AV Link function depends on the audiovisual equipment used. Depending on the manufacturer and type of equipment used, it is possible that the described functions may be completely or partially unusable.

Menu operations

On-Screen Display

Example



Item highlighted in yellow

- This indicates the item currently selected.

Item displayed in white

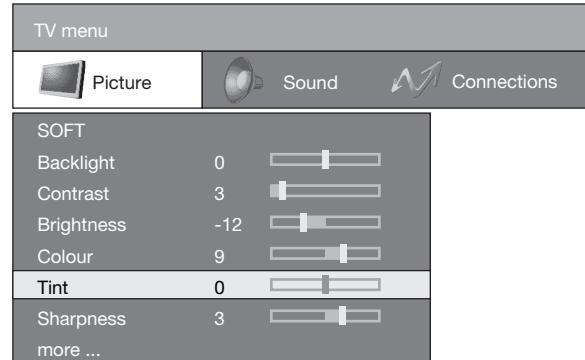
- This indicates an item can be selected.

NOTE

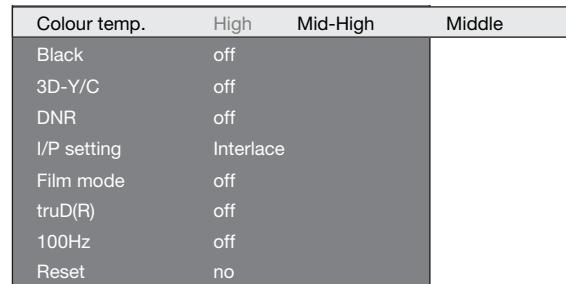
- Some menu items do not appear as explained in this manual depending on the selected parameter, input mode or the type of signal received.
- The screens in the operation manual are for explanation purposes (some are enlarged, others cropped) and may vary slightly from the actual screens.

Common operations

- 1 Press **MENU** and the TV menu screen displays.
- 2 Press **◀/▶** to select the desired menu, and then press **OK**.
- 3 Press **▲/▼** to select the desired menu item. Press **OK** to proceed if necessary.



- Press **▲/▼** to select "more..." and then press **OK**, if the item you want to adjust is not displayed.



- 4 Press **◀/▶** to select the desired item or move the item to the desired position. Press **OK** if necessary.
- 5 Press **◀** repeatedly to return to the last menus, or press **END** or **MENU** to exit the menu.

Menu operation without a remote control

This function is useful when there is no remote control within your reach.

Adjusting frequently adjusted items

- 1 Press **MENU** briefly to display the direct control screen.
 - You can adjust the following items: "INPUT SOURCE", "Brightness", "Contrast", "Wide modes" and "Service".
 - "Service" is the item reserved only for service personnel.
- 2 Select the item by pressing **P ▲/▼**.
- 3 Select or adjust by pressing **◀/+/-**.

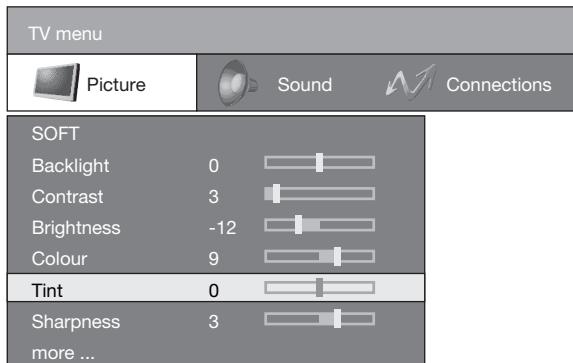
NOTE

- The direct control menu screen will disappear if left unattended for several seconds.

Menu operations

Picture menu

Various picture-related settings can be optimised.



NOTE

- Items with * can be adjusted and reset for each individual AV mode.
- Items with ** appear only when "PC (RGB)" for EXT 4 is selected under "Input select".
- Press **▲/▼** to select "more..." and then press **OK**, if the item you want to adjust is not displayed.

Backlight*

Dims or brightens the screen.

Contrast*

The contrast settings depend on the brightness of the room. The brighter the surroundings the higher the contrast should be set.

Brightness*

Set the brightness so that the black areas of the picture only appear black.

Colour*

Set the colour intensity according to your personal taste. The colours should appear natural which is best recognizable from the colour of peoples' faces, for example.

Tint*

Set the tint so that the colours appear natural. This can be judged from the colour of peoples' faces, for example.

Sharpness*

Adjust the sharpness to obtain the desired image definition.

Red**

PC only

Adjust red colour intensity.

Green**

PC only

Adjust green colour intensity.

Blue**

PC only

Adjust blue colour intensity.

Colour temp.*

Adjust the colour temperature to give the best white image.

Item

- High:** White with bluish tone
- Mid-High:** Intermediate tone between High and Middle
- Middle:** Natural tone
- Mid-Low:** Intermediate tone between Middle and Low
- Low:** White with reddish tone

Black*

For easier viewing, change the viewing depth by selecting a level for automatically adjusting the dark portion of an image.

3D-Y/C

Provide high quality images with minimal dot crawl and cross colour noise by detecting changes in the image.

Item

- off:** No detecting
- Standard:** Normal adjustment
- Fast:** Set the optimum image quality for fast-moving images.
- Slow:** Set the optimum image quality for slow-moving images.

NOTE

- 3D-Y/C may not operate depending on the input signal type or noisy input signal.
- 3D-Y/C has even more effect on composite video signals (CVBS).

DNR (Digital Noise Reduction)

Produce a clearer image. (off, High, Low)

I/P setting

Adjust the image and input signal can give you a more beautiful picture.

Item

- Interlace:** Display finely detailed images for TV or video, etc.
- Progressive:** Display smooth images for still images or graphics, etc.

NOTE

- The I/P setting is set to "Progressive" when Film mode is "on".

Menu operations

Film mode

Automatically detects a film-based source (originally encoded at 24/25 frames/second, depending on the vertical frequency), analyses it and then recreates each frame for film-like picture quality.

truD(R)

“truD(R)” ensures you steady motion instead of edgy movements and juddering. It further improves the image quality by enhancing contrast and sharpness with advanced video algorithms. When entering the “truD(R)” menu, you can only switch the juddering correction on/off. The picture quality adjustments such as enhanced contrast and sharpness is always on.

NOTE

- This effect is greater on fast moving images such as film contents.
- If “truD(R)” is activated the items “I/P setting” and “Film mode” will not be displayed in the menu screen.
- “truD(R)” will not be displayed in the menu screen depending on the type of signal received (HD signal, etc.).

100Hz

100Hz technology provides superior solutions for digital display picture quality removing motion blur.

NOTE

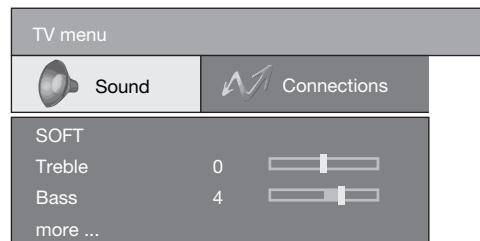
- Press **DEMO** on the remote control unit to show 100Hz demonstration in a dual screen format.
- This effect is greater on fast moving images.
- 100Hz will have no effect in the following cases.
 - 1) The type of signal received is a PC signal.
 - 2) An OSD is being displayed.
 - 3) Teletext is activated.

Reset

Select if you wish to reset all picture-related items to the factory presets.

Sound menu

Various sound-related settings can be optimised.



NOTE

- Items with * can be adjusted and reset for each individual AV mode.
- Press **▲/▼** to select “more...” and then press **OK**, if the item you want to adjust is not displayed.

Treble*

For weaker or stronger treble

Bass*

For weaker or stronger bass

Loudness

Boosts low and high frequencies to give added punch to playback even at a low volume level.

Auto volume

The volume may vary when receiving stations with different standards or when switching from station to station or during commercial breaks. You can reduce these differences in volume by activating Auto volume. Switch off the automatic function for the reception of music programmes and live broadcasts for a better sound.

Balance

Set the balance to achieve equal volume from the right and left sides.

Clear voice

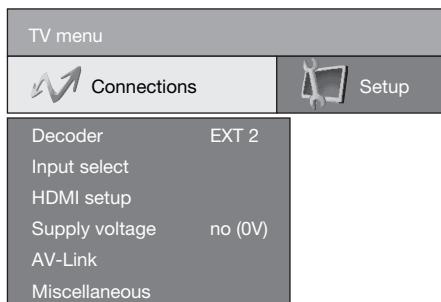
This function emphasises speech voice against the background noise for more intelligibility. It is not recommended for music sources.

Reset

Select if you wish to reset all sound-related items to the factory presets.

Menu operations

Connections menu



Decoder

Make sure to select the terminal (EXT 1 or 2) to which the decoder is connected.

NOTE

- This setting will be reflected in the “Decoder stations” function under “Miscellaneous”. (Page 19)

Input select

For setting the signal type of external equipment.

Input source	Signal type
EXT 1	Y/C, CVBS, RGB
EXT 2	Y/C, CVBS
EXT 4	PC (RGB), COMPONENT

NOTE

- If no (colour) image displays, try to change the other signal type.**
- Check the operation manual of the external equipment for the signal type.
- TV, DTV, EXT3, EXT5 and EXT6 are not displayed in Input Select.
- If both CVBS and RGB signals are input to EXT 1 using a SCART cable, the TV may output an RGB signal even though you have designated CVBS for the respective terminal. This happens due to the setting of your external equipment.

HDMI setup

HDMI (High-Definition Multimedia Interface) terminal selection.

- Press **MENU** and the TV menu screen displays.
- Press **◀/▶** to select “Connections”, and then press **OK**.
- Press **▲/▼** to select “HDMI setup”, and then press **OK**.
- Press **▲/▼** to select “EXT5” or “EXT6”, and then press **OK**.
- Press **▲/▼** to select the desired item.
- Press **◀/▶** to select the desired setting.

HDMI setup items	Selectable items	Description
Signal type*	RGB/YCbCr 4:4:4/YCbCr 4:2:2	Select the video signal type from the HDMI terminal.
Colour matrix*	ITU601/ITU709	Select the internal colour space conversion method when an RGB signal is input.
Dynamic range*	Normal/ Enhanced	Select the signal amplitude range. Usually, select “Normal”.
Auto view	Enable/Disable	Set whether or not to use Wide mode based on signal recognition, including an HDMI signal.
Audio select**	Digital/Analogue	Select “Digital” for audio signal via the HDMI terminal. Select “Analogue” for audio signal via the AUDIO jack.

NOTE

- Refer to your external equipment operation manual for the signal type.
- Items with * may be greyed out depending on the type of signal input from the external equipment.
- Item marked ** is only available when EXT5 is selected.

Menu operations

Supply voltage

Antennas with an integrated amplifier need a supply voltage on the antenna line. (Page 4)

AV-Link (EXT 2 only)

With this function you can transfer the station data of the TV (such as station preset number/name/channel/frequency) to the recorder if the recorder is set up for AV-Link. This function is available only for conventional analogue stations.

- 1 Press **MENU** and the menu screen displays.
- 2 Press **◀/▶** to select “Connections”, and then press **OK**.
- 3 Press **▲/▼** to select “AV-Link”, and then press **OK**.
- 4 Select “Start transmission”, and then press **OK**.
 - The TV transfers the station list to the AV-Link recorders connected to EXT 2.

Miscellaneous

Decoder stations

Encrypted stations should be labelled as decoder stations, so that they can be decoded automatically by the connected decoder.

Items	Description
Select decoder station(s)	Press OK to mark an encoded station. The marking can be removed from a station that has already been marked by pressing the same key.
Sound encoding	For reception of encoded audio signals select either “always” if these are always encoded or “Automatic” if these are sometimes encoded. For audio signals which are always un-coded, select “never”.

Manual adjustment of AV standard

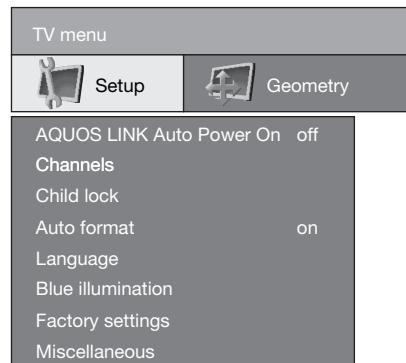
Ask your dealer which standard to select for specific AV equipment (if it is not recognised automatically). Select the appropriate external terminal (EXT 1- 3) and its AV standard as advised.

Allow switching voltage

If this function is activated and you switch to an AV device (connected to EXT 1 or 2) that delivers switching voltage to playback, its picture and sound will be reproduced immediately at all TV presets. (This function is available only for analogue TV and DTV mode.)

Setup menu

You can search for stations automatically or manually as well as set the menu language, time and date, child lock, on-screen displays, etc.



AQUOS LINK Auto Power On

(See page 13.)

Channels

The menu contains the automatic station search and the manual station settings. You can re-sort stations, enter and change station names, and delete stations.

Search wizard

Use this menu to search for stations automatically once certain settings have been made. (See page 8, **Initial auto installation (Analogue)** for details.)

- 1 Press **MENU** and the TV menu screen displays.
- 2 Press **◀/▶** to select “Setup”, and then press **OK**.
 - Press **▲/▼** to select “Channels”, and then press **OK**.
 - Press **▲/▼** to select “Search wizard”, and then press **OK**.
 - You will get a table for the auto station search.
- 3 If necessary select “Change search settings”, and then press **OK**. Otherwise skip to step 8.
- 4 Press **▲/▼/◀/▶** to select your country or area listed on the screen, and then press **OK**.
- 5 Indicate whether you wish to have “all” stations or “new ones only” searched for using **◀/▶**, and then press **OK**.
- 6 Select the desired TV/colour standard, and then press **OK**.
- 7 Specify from which station position onwards the stations are to be stored, and then press **OK**.
- 8 Press **▲/▼** to select “Start search”, and then press **OK**.

NOTE

- The station search may take some time.
- Do not make any entries or switch off the set during this time.
- When the search has ended you will be shown the found and stored stations sorted in numerical order.
- After the station search has been completed, close the table by pressing **END**.

Menu operations

Manual tune

Use the manual tune option when receiving TV signal whose TV/Colour standard deviate from the one specified already. However, this requires detailed knowledge.

- 1 Press **MENU** and the TV menu screen displays.
- 2 Press **◀/▶** to select “Setup”, and then press **OK**.
- 3 Press **▲/▼** to select “Channels”, and then press **OK**.
- 4 Press **▲/▼** to select “Manual tune”, and then press **OK**.
- 5 Now enter the necessary setting parameters for each menu item.
 - For “Channel” and “Frequency”, you can initiate the search by pressing **Blue** (Search) or simply enter the number if you know it.
 - For items “TV stand.” and “Col. standard”, you must first press **OK** (Adopt) to confirm the change.
- 6 When you have finished the adjustments, press **Red** (Store) to store the new settings.
- 7 Next, select the channel position to store the new settings. Press **Red** to overwrite the current station or **Blue** to insert the new channel.

Item

Channel: You can enter the channel number directly here.

Press **◀/▶** to move between the receiving channel modes.

Frequency: You enter the frequency directly using the numeric buttons. For fine tuning, use the **◀/▶** buttons. Fine tuning may be necessary for analogue channels or for recorder playback via the antenna connection.

Name: You can enter an 8-character channel name. Refer to page 9 for the character input method.

TV stand.: Ask your dealer which standard to select for specific channels or AV equipment. (B/G, I, L, D/K)

Col. standard: Ask your dealer which standard to select for specific channels or AV equipment. Selectable colour standard varies depending on the selected TV standard. (Auto, PAL, SECAM)

Change stations

You can move stations, enter or change station names, and delete stations. The operation is the same as explained in page 9, “**To delete, move, and rename stations from the station list**”.

Child lock

With the child lock you can bar access to all stations immediately or daily for a certain time period. To use this function, you have first to define your PIN.

NOTE

- To view a locked channel, you must enter the PIN. (See page 31 for locking channels from viewing in DTV mode.)
- The TV power will be turned off if no PIN is entered for several seconds.

Lock immediately

You can lock out all stations immediately by selecting “yes”. The lock is effective immediately and effective whenever you turn on the TV.

Lock daily

Here, enter the daily time period, for which your TV set is to be locked.

Change PIN

This allows you to change your PIN.

NOTE

- When in analogue TV mode, the current PIN becomes invalid if you choose “no” for both “Lock immediately” and “Lock daily”.
- **As a precautionary measure, make a note of your PIN on the back of this operation manual, cut it out and keep it in a safe place that children cannot reach.**
- See page 36 if you lose or forget your PIN.

Auto format

When Auto format is switched on, the TV recognises the wide picture mode for Cinemascope or widescreen films and adjusts itself accordingly.

NOTE

- Use Wide modes if an image does not switch to the desired screen format.
- When 4:3 picture format (i.e., “Normal”) is manually selected using the Wide modes function, the Auto format function is temporarily disabled. Select another input source or reset the TV power to restore the Auto format function, and the 4:3 picture format will be automatically selected depending on the transmitted signal.

Language

You can select a language from the Setup menu. Select from among 13 languages. (Dutch, English, Finnish, French, German, Greek, Italian, Polish, Portuguese, Russian, Spanish, Swedish, Turkish)

Blue illumination setting

The LED on the front of the TV is blue when illuminated.

NOTE

- The factory default setting is “on”. Set to “off” if you do not want the LED to illuminate.

Factory settings

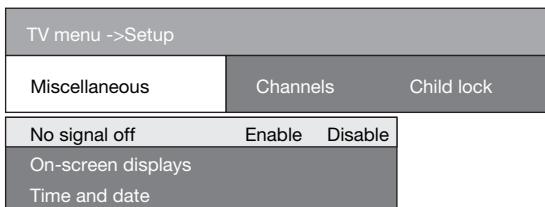
Call up the predefined sound and picture factory settings. Unlike the “Reset” options provided in the Picture and Sound menus, this will reset all parameters to the default value all across the various input modes and AV mode options.

Menu operations

Miscellaneous

● No signal off

When set to "Enable" the TV will automatically enter the standby mode if there is no signal input for 6 minutes.



NOTE

- When a TV programme finishes, this function may not operate.
- This function is not available in DTV mode.

● On-screen displays

Here you can determine which on-screen displays are to be shown by pressing **(i+)** on the remote control.

Items	Description
On-screen display time	Sets the duration of the TV status and station name display. <ul style="list-style-type: none">• This setting also affects other TV screens. (Volume, Surround, etc.)
Sound mode	Sound mode display on/off ("yes"/"no")
Time	Time information display on/off ("yes"/"no")

● Time and date

When you receive teletext, the correct date and time setting is picked up automatically by the set.

If you do not receive teletext, you should set the "Date" and "Time" manually. Also you have additional items you can adjust as outlined below.

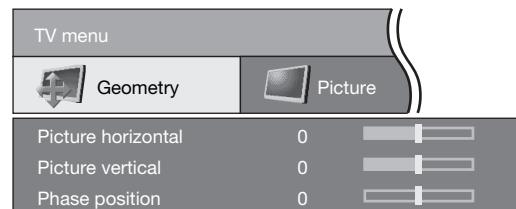
NOTE

- Time and date information configured manually cannot be overridden automatically by the set.
- If the power to the set is cut off (disconnection of AC cord, power outage, etc.), the auto time acquisition mode through teletext reactivates.

Items	Description
Time	If you receive a station with teletext after switching on your TV set, the time and date are automatically registered. In the case of some stations, the date may have to be entered manually. For stations without teletext, enter the time (00:00 to 23:59) and the date (day.month.year) using the numeric buttons on the remote control.
Date	See the above item "Time".
Beginning of daylight-saving time	Enter the date for the beginning of daylight-saving time if it deviates from the date calculated automatically.
End of daylight-saving time	Enter the date of the end of daylight-saving time if it deviates from the date calculated automatically.

Geometry menu

You can set the geometry values of the picture such as picture position and phase relation. The adjustments are stored independently for each input mode.



Picture horizontal

Sets the horizontal picture position by moving the picture left and right.

Picture vertical

Sets the vertical picture position by moving the picture up and down.

Phase position

PC only

Adjusting the phase relation ensures a picture without flicker and noise. (Available only for RGB signal)

Menu operations

Other menu items

Some of the useful features can be directly called up by pressing assigned buttons on the remote control.

AV mode

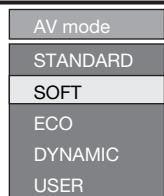
AV mode gives you five viewing options to choose from to best match the system environment, which can vary due to factors like room brightness, type of programme watched or the type of image input from external equipment.

1 Press **AV MODE**.

- The AV mode menu displays.

2 Press **AV MODE** or **▲/▼** while the AV mode menu displays on the screen.

- As you toggle down the options, each is immediately reflected on the screen. No need to press **OK**.



Item

STANDARD: For a highly defined image in a normally bright room (Enhanced Picture Contrast: On)

SOFT: Creates a softer image. (Enhanced Picture Contrast: On)

ECO: Reduces power consumption. (Enhanced Picture Contrast: Off)

DYNAMIC: For a clear-cut image emphasising high contrast for sports viewing. (Enhanced Picture Contrast: On)

USER: Allows the user to customise settings as desired. You can set the mode for each input source. (Enhanced Picture Contrast: Off)

NOTE

- You can adjust the factory presets given in "STANDARD", "SOFT", "ECO" and "DYNAMIC".
- You can assign different AV mode to each external input source.
- Enhanced Picture Contrast technology detects the source video characteristics and smoothly adjusts the screen brightness accordingly, enabling deeper black levels.
- Enhanced Picture Contrast is activated when you turn the OPC function off for the items "STANDARD", "SOFT" and "DYNAMIC" in AV mode.

Status display

Press **i+**, a status display appears for a few seconds.



- In the top line you can see the name of the programme. See page 21 for how to customise the settings for the status display.

INPUT SOURCE

Use the INPUT SOURCE screen to select/check the external equipment connected to the terminal(s) on the back of the TV.

1 To watch images from external AV equipment, press **→**. (Page 10)

- To close the INPUT SOURCE screen, press **→** again.

2 Press **▲/▼** to select the corresponding terminal, and then press **OK**.

NOTE

- If AQUOS LINK-compatible device connected to EXT 5 or 6 sends model-specific data to the TV, its device name is displayed.

INPUT SOURCE
TV
DTV
EXT1
EXT2
EXT3
EXT4
EXT5
EXT6

Still image

You can freeze a motion picture on the screen.

1 Press **STILL**.

2 Press **STILL** again to exit still image.

NOTE

- This function may not be available depending on signal condition.

OPC

Automatically adjusts the brightness of the screen.

Press **OPC** on the remote control unit to switch the Optical Picture Control on and off.

NOTE

- When set to "on", the TV senses the surrounding light and automatically adjusts the backlight brightness. Make sure no object obstructs the OPC sensor, which could affect its ability to sense surrounding light.
- Under the factory default condition, OPC becomes active when you select "ECO" for the AV mode.
- OPC turns off whenever an adjustment is made to the "Backlight" setting.
- OPC can be adjusted and reset for each individual AV mode.

Menu operations

Wide modes

You can select the picture size. Selectable picture size varies with the type of signal received.

Basically, if you set Auto format to "on" in the Setup menu, the optimum Wide mode is automatically chosen for every broadcast. You can however, change the screen format manually as explained below.

NOTE

- Aside from manually changing the Wide modes as explained herein, the TV may detect and select the optimum Wide mode according to the signal received.

- 1 Press **W**.
 - The Wide modes menu displays.
 - The menu lists the wide mode options selectable for the type of video signal currently received.
- 2 Press **W** or **▲/▼** while the Wide modes menu displays on the screen.
 - As you toggle down the options, each is immediately reflected on the screen. No need to press **OK**.

Item (for SD (Standard) signal)

Full: For 16:9 squeeze pictures.

Normal: For 4:3 "standard" pictures. A side bar appears on each side.

Panorama: In this mode the picture is progressively stretched toward each side of the screen.

Cinema 16:9: For 16:9 letterbox pictures. Bars may appear on the top and bottom with some programmes.

Cinema 14:9: For 14:9 letterbox pictures. Bars may appear on the top and bottom with some programmes.

Item (for HD (High-Definition) signal)

Full: Display with the Overscan image. Crop all sides of screen.

Underscan: Display with the Underscan image.
(Display with the High-Definition image compressed optimally. Noise may appear on the edge of the screen with some programmes.)

Wide modes

PC only

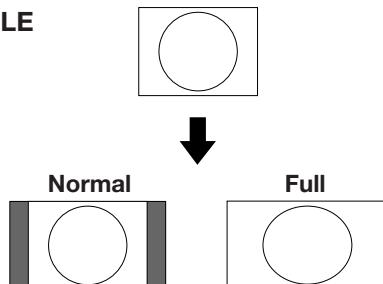
You can select the picture size.

- 1 Press **W**.
 - The Wide modes menu displays.
- 2 Press **W** or **▲/▼** to select a desired item on the menu.

NOTE

- Connect the PC before making adjustments. (Page 11)
- Selectable picture size may vary with input signal type.

EXAMPLE



Item

Full: An image fully fills the screen.

Normal: Keeps the original aspect ratio in a full screen display.

Menu operations

Analogue Teletext

What is Teletext?

Teletext broadcasts pages of information and entertainment to specially equipped television sets. Your TV receives Teletext signals broadcast by a TV network, and decodes them into graphical format for viewing. News, weather and sports information, stock exchange prices and programme previews are among the many services available.

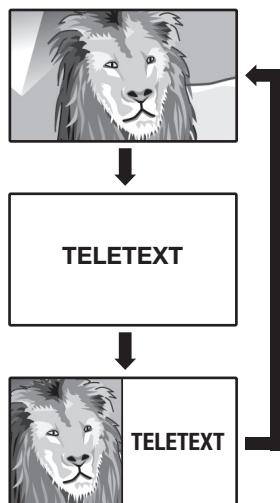
Turning on and off Teletext

- 1 Select a TV channel or external input source providing the Teletext programme.
- 2 Press  to display the Teletext.



- Many stations use the TOP operating system, while some use FLOF (e.g. CNN). Your TV supports both these systems. The pages are divided into topic groups and topics. After switching on the teletext, up to 2000 pages are stored for fast access.

- 3 Press  again to display the Teletext on the right screen and the normal image on the left screen.
 - Each time you press , the screen switches as shown below.
 - If you select a programme with no Teletext signal, "No text" displays.
 - The same message displays during other modes if no Teletext signal is available.



NOTE

- Teletext will not work if the selected signal type is RGB. (Page 18)

Using analogue teletext menu

While in the analogue teletext mode, press **MENU** to display the Teletext Menu.



Newsflash

If you activate "Newsflash" in the teletext menu, the current page is hidden. The  symbol at the top left shows that the newsflash function is enabled (you are in teletext mode). If its contents are updated and it is a small news window, then this is displayed. If, however, it is a page that fills the screen, the symbol is shown in blue and the page can be displayed by pressing **OK**.

Reveal/Conceal

The teletext contains hidden information e.g., for quiz questions or VPS times in programme preview pages. This is the same function as pressing .

Menu operations

Setup

Menu			
Setup	Newsflash	Reveal	
Sub-title pages			
Teletext subtitles	with normal size		
Character set	Standard	Russian	Greek
HiText	yes		

Sub-title pages

Some stations provide teletext subtitles for the hearing impaired. For every station you can enter the teletext page on which subtitles can be found. The factory setting for all stations is page 150. This function can be started by pressing  with the menu screen open.

Teletext subtitles

This function displays subtitles transmitted via teletext in normal or double size.

Character set

You can set the teletext language display to the language listed. This is necessary, for example, for Turkish or Polish teletext.

HiText

HiText (Level 2.5) can be used to select an improved teletext video display. This will be effective as soon as the TV station broadcasts the required information.

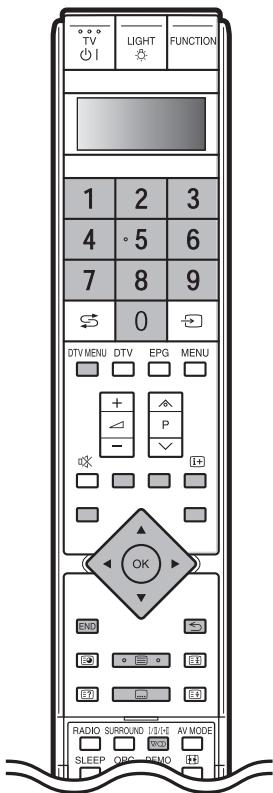
Buttons for teletext operation

Buttons	Description
 (Red/Green/Yellow/Blue)	Select a group or block of pages displayed in the coloured brackets at the bottom of the screen by pressing the corresponding Colour (Red/Green/Yellow/Blue) on the remote control unit.
 0 - 9	Directly select any page from 100 to 899 by using 0 - 9 .
 (Top/Bottom/Full)	Switch the Teletext image to Top, Bottom or Full.
 (Reveal hidden Teletext)	Reveal or conceal hidden information such as an answer to a quiz.
 (Freeze/Hold)	Stop updating Teletext pages automatically or release the hold mode.
 (Subtitle for Teletext)	<p>Display the subtitle or exit the subtitle screen.</p> <ul style="list-style-type: none"> Subtitle will not be displayed when the service does not contain the subtitle information. <p>User for LC-46XL1E, LC-52XL1E:</p> <ul style="list-style-type: none"> Subtitle is set to off when the power is turned on. <p>User for LC-46XL1S, LC-52XL1S:</p> <ul style="list-style-type: none"> Subtitle is set to on when the power is turned on.
 (Subpage)	<p>Reveal or hide subpages.</p> <ul style="list-style-type: none">  button: Select subpage. Red button: Move to the previous page. Green button: Move to the following page. These two buttons are shown on the screen by the signs – and +.

DTV menu operations

DTV menu operation buttons

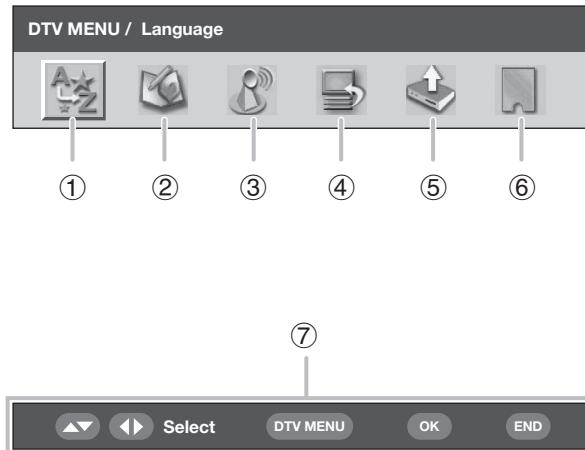
Use the following buttons on the remote control unit to operate the DTV Menu.



- Press to display the subtitle selection screen.
- Press to display TELETEXT or start the MHEG5 presentation, if available.
- 0 - 9:** Aside from direct channel entry, each of the **1 - 9** numeric buttons have a unique function assigned in the Programme Setup screen.
- DTV:** Press to access DTV mode.
- EPG:** Press to open the EPG screen.
- RADIO:** Press to switch between TV and RADIO mode.
 - Due to large variation in transmitted volume levels in RADIO mode, some stations will produce distortion if the volume level is set too high.
- Press to open the multi audio screen.
- DTV MENU:** Press to open or close the DTV Menu screen.
- I+:** Press to open the service banner or view detailed information from the EPG screen.
- ▲/▼/◀/▶:** Press to select a desired item on the screen or adjust a selected item.
- OK:** Press to go to the next step or complete the setting.
- Press to open the Programme list when no other menu screen is active. (Except external input.)
- END:** Press to exit the current menu screen without saving the changes.
- Colour:** Each of the coloured buttons have a unique function assigned in the menu screen.
- ↪ (Return):** Press to return to the previous step.

DTV On-Screen Display

Example



- ① Language**
 - To customise the language preference for audio and MHEG5 application.
- ② Programme Setup**
 - To configure various settings for each service. These include: Fav(ourite), Lock, Move, Move To, Skip, Select, Erase, Label, and View functions.
- ③ Installation**
 - To scan all services available in your area, or to label/erase/re-scan the selected carrier.
- ④ System Setup**
 - To configure On-Screen Display and Child Lock settings.
- ⑤ Accessories**
 - To display the current version of the software or to allow the software upgrade to take place.
- ⑥ Common Interface**
 - To display the current Common Interface details.
- ⑦ Navigation buttons**
 - To navigate within the DTV Menu screen.

DTV common operations

DTV common menu operation

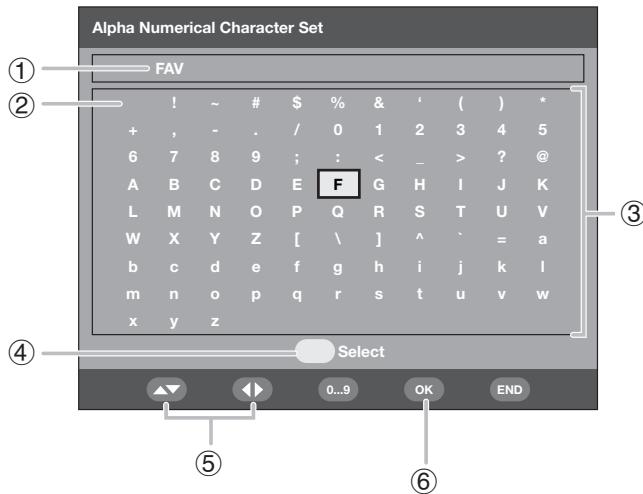
- 1** Press **DTV** or **→** to access the DTV mode.
- 2** Press **DTV MENU** and the DTV Menu screen displays.
- 3** Press **◀/▶** to select the desired menu, and then press **OK** if necessary.
 - From this point, menu operations differ depending on the item you are going to adjust. See the respective section of the menu operation.
 - You cannot select any DTV-related menu items unless "Auto Installation" has been completed.
 - Press **RADIO** to switch between DTV and Radio mode.
 - To exit the current screen without saving the change, press **END**.

DTV menu operations

About using the character set screen

In some cases you may be prompted to enter characters. See below for details.

Sample Alpha Numerical Character Set screen



① Input area

② Space

To add or overwrite with a space.

③ Character select area

④ YELLOW (Select) button

Press to move between the input area and character select area.

⑤ ▲/▼/◀/▶ button

Press to move the cursor.

⑥ OK button

While in the input area:

Confirms the new name.

Once **OK** is pressed to confirm, a confirmation message displays.

Press **◀/▶** to select "Yes", and then press **OK**.

While in the character select area:

Confirms the input of a character.

Sample operation using Alpha Numerical Character Set

- 1 Call up the character set screen while in the "Label" or "Carrier Setup" screen. (Pages 29 and 30)
- 2 Press **YELLOW (Select)** to move the cursor to the character select area.
- 3 Press **▲/▼/◀/▶** to select the desired character, and then press **OK**. Repeat until the new name is fully entered.
 - Use space to add a space or overwrite.
- 4 To register the new name, press **YELLOW (Select)** to move the cursor back to the input area.
- 5 Press **OK**.
 - A confirmation message displays.
- 6 Press **◀/▶** to select "Yes", and then press **OK**.

Language

Select language settings for audio (if a programme is broadcast in more than one language) and MHEG5 service.

- 1 Press **OK** while the cursor is on "Language".
- 2 Press **▲/▼** to select "1st Pref. Audio", "2nd Pref. Audio", "3rd Pref. Audio" or "MHEG".
- 3 Select a desired language for each item.

NOTE

- See page 20 to change the language displayed on-screen.
- See page 35 to change the subtitle language.
- See page 35 for details on the MHEG5 service.

Available language list

Basque	Greek
Catalan	Italian
Croatian	Norwegian
Czech	Polish
Danish	Portuguese
Dutch	Russian
English*	Serbian
Finnish	Slovak
French	Spanish
Gaelic*	Swedish
Gallegan	Turkish
German	Welsh*

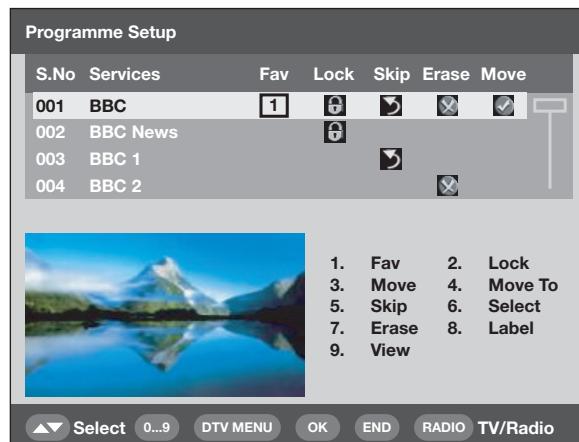
* Languages available for MHEG5 service

Programme Setup

Configure various settings for each service. Press the preassigned **1 - 9** numeric buttons to access each of the functions explained below.

Press **OK** while the cursor is on "Programme Setup".

Sample Programme Setup screen



1. Fav
2. Lock
3. Move
4. Move To
5. Skip
6. Select
7. Erase
8. Label
9. View

NOTE

- The picture window shows a blank image if Radio services are listed.

DTV menu operations

Favourite

Assign services to 4 different favourite groups.

- 1 Press **▲/▼** to select the desired service.
- 2 Press **1** on the remote control. A selection box displays.
- 3 Press **▲/▼** to register the selected service to any of the 4 favourite groups (None, Fav 1 ... Fav 4) and then press **OK**. An icon displays indicating the favourite status.
 - Do not press **END** to exit the screen here if you wish to register the change.
- 4 Press **OK**.
- 5 Now you can easily select your favourite service from the Programme List. (Page 34)

NOTE

- You cannot register the same service to two different favourite groups.

Lock

When the service is locked, you must enter your PIN whenever you tune to the service.

- 1 Press **▲/▼** to select the desired service.
- 2 Press **2** on the remote control. If you have already set the PIN, enter it here. If not, enter the factory preset PIN "1234". An icon displays indicating the service is locked.
 - Pressing **2** will turn the lock icon on and off. (PIN entry is required when lifting the lock icon.)
 - Do not press **END** to exit the screen here if you wish to register the change.
- 3 Press **OK**.

NOTE

- See page 20 for setting the PIN.

Move

Sort the order of the selected service by moving the service position.

- 1 Press **▲/▼** to select the desired service.
- 2 Press **3** on the remote control. An icon displays indicating the service to be moved.
 - Pressing **3** will turn the move icon on and off.
- 3 Move the selected service to the desired position using **▲/▼**, and then press **OK**.
 - Do not press **END** to exit the screen here if you wish to register the change.
- 4 Press **OK** to register the change.

EXAMPLE:

Moving "002 ZDF" ahead of "001 ARD".

Default order: Press **▲/▼** to select the desired service in 001 → 002 → 003 → 004.

Sorted order: Press **▲/▼** to select the desired service in 002 → 001 → 003 → 004.

Move To

Use this function to change the position of two selected services

- 1 Press **▲/▼** to select the desired service.
- 2 Press **4** on the remote control.
- 3 Enter the number using **0 - 9** numeric buttons, and then press **OK**. The positions of the selected services are switched.
 - Do not press **END** to exit the screen here if you wish to register the change.
 - You cannot enter a service number that is not listed.
- 4 Press **OK** again, the message "Successfully updated" displays. The change is now registered.

001	ZDF
002	ARD
003	SAT. 1
004	RTL

→

001	RTL
002	ARD
003	SAT. 1
004	ZDF

Skip

Services that are set to skip will not be picked up when pressing **P** (**▼/▲**).

- 1 Press **▲/▼** to select the desired service.
- 2 Press **5** on the remote control. An icon displays indicating the service to be skipped.
 - Pressing **5** will turn the skip icon on and off.
 - Do not press **END** to exit the screen here if you wish to register the change.
- 3 Press **OK**.

NOTE

- To view services that are set to be skipped, use **0 - 9** numeric buttons or select from the Programme List.

001	ARD
002	ZDF
003	SAT. 1
004	RTL

→

002	ZDF
001	ARD
003	SAT. 1
004	RTL

DTV menu operations

Select

Use this function to jump to the specific service in one step. This is useful when there are many services displayed on screen to scroll through.

- 1 Press **6** on the remote control. Now you can change the service number on the left side of the screen.
- 2 Enter the number using **0 - 9** numeric buttons, and then press **OK**. The highlight moves to the selected service.

Erase

Erase the selected service(s) from the memory.

- 1 Press **▲/▼** to select the desired service.
- 2 Press **7** on the remote control. An icon displays indicating the service to be erased.
 - Pressing **7** will turn the erase icon on and off.
 - Do not press **END** to exit the screen here if you wish to register the change.
- 3 Press **OK**.
 - A confirmation message displays.
- 4 Press **◀/▶** to select “Yes”, and then press **OK**.

Label

Change individual service names.

- 1 Press **▲/▼** to select the desired service.
- 2 Press **8** on the remote control. A character set screen displays.
- 3 Enter new name for the service. See page 27 for operations using the character set screen.

View

Tune to the service shown in the picture window.

- 1 Press **▲/▼** to select the desired service.
- 2 Press **9** on the remote control.
 - The image shown in the picture window changes.
- 3 Press **END** to exit the Programme Setup screen to view the image in full screen.

Installation

This section describes how to reconfigure the DTV settings after conducting **Initial auto installation (DTV)** on page 8.

Auto Installation

The TV automatically detects and stores all available services in your area. See **Initial auto installation (DTV)** on page 8 for details.

NOTE

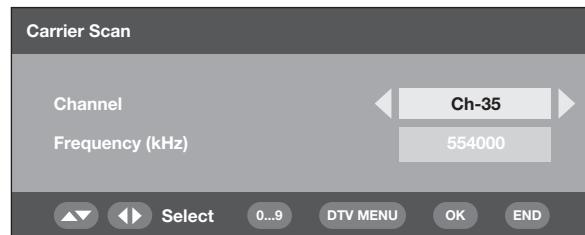
- If the TV detects a new carrier/service that has become available after performing “Auto Installation”, the message “Do you want to save?” displays.

Press **◀/▶** to select “Yes” or “No”, and then press **OK**.

Carrier Scan

Manually add a new carrier by entering the desired carrier number or frequency band.

- 1 Press **◀/▶** to select “Installation”.
- 2 Press **▲/▼** to select “Carrier Scan”, and then press **OK**.
If you have already set the PIN, enter it here. If not, enter the factory preset PIN “1234”.



- 3 Press **▲/▼** to select “Channel”, then **◀/▶** to enter the carrier number, and then press **OK**.
 - The frequency of the selected carrier in the below cell changes correspondingly.
- 4 After the scan is complete, the screen shows all available services for the selected range.
- 5 A confirmation message displays. Press **◀/▶** to select “Yes”, and then press **OK** to save the change.

NOTE

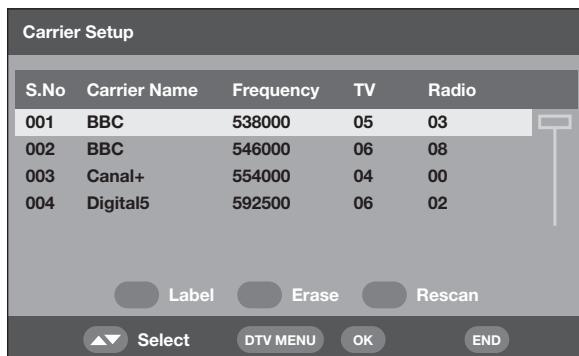
- You can directly enter the frequency instead of step 3. In this case, select “Frequency (kHz)”, enter the number using **0 - 9** numeric buttons, and then press **OK**. Use **◀/▶** to move between the digits.
- After performing “Carrier Scan”, the order stored by using the “Move” function will revert to the default order.
- See page 20 for setting the PIN.

DTV menu operations

Carrier Setup

This is provided for you to rename (label), erase, or re-scan carriers. "Carrier" in this context refers to a service station that provides a set of individual services.

- 1 Press **◀/▶** to select "Installation".
- 2 Press **▲/▼** to select "Carrier Setup", and then press **OK**.
If you have already set the PIN, enter it here. If not, enter the factory preset PIN "1234".



① To rename the selected carrier:

Select the carrier, and then press **RED** (Label). The character set screen displays. Enter a new name for the carrier. See page 27 for details on using the character set screen.

② To erase the selected carrier:

Select the carrier, and then press **GREEN** (Erase). An icon displays indicating the carrier to be erased. Pressing **GREEN** will turn the erase icon on and off. Press **OK**.

A confirmation message displays.

Press **◀/▶** to select "Yes", and then press **OK**.

③ To re-scan the selected carrier:

Select the carrier, and then press **BLUE** (Rescan). Re-scanning starts.

A confirmation message displays.

Press **◀/▶** to select "Yes", and then press **OK**.

NOTE

- After re-scanning the selected carrier, the order stored by using the "Move" function will revert to the default order.

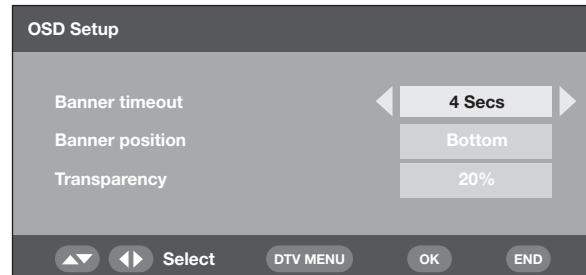
System Setup

Configure On-Screen Display and Child Lock settings.

OSD Setup

The On-Screen Display appearance and the position/duration of the service banner information can be customised.

- 1 Press **◀/▶** to select "System Setup".
- 2 Press **OK**.



- 3 Press **▲/▼** to select the desired item.

- 4 Press **◀/▶** to select the desired parameter, and then press **OK**.

- 5 A confirmation message displays. Press **◀/▶** to select "Yes", and then press **OK** to save the change.

OSD Setup items	Selectable items	Description
Banner timeout	1 Sec/2 Secs/... 7 Secs/None	Select how long the service banner information appears on screen.
Banner position	Top/Bottom	Select whether the service banner information appears on top or bottom of the screen.
Transparency	None /10% /20%...50%	Select the desired level of On-Screen Display transparency.

Child Lock

This function allows TV and Radio services to be restricted. It prevents children from watching violent or sexual scenes that may be harmful.

- 1 Press **◀/▶** to select “System Setup”.
- 2 Press **▲/▼** to select “Child Lock”, and then press **OK**.
- 3 If you have already set the PIN, enter it here. If not, enter the factory preset PIN “1234”.
- 4 Press **◀/▶** to select the desired age/rating (4 ...18/Universal/Parental/X-rated/None), and then press **OK**.



NOTE

- “Universal” and “Parental” are the ratings used exclusively in France.
- “X-rated” is the rating used exclusively in Spain.
- For details about ratings see page 42.

Accessories

Check the version information of the digital module and allow it to be upgraded (when available).

Software Version

- 1 Press **◀/▶** to select “Accessories”.
- 2 Press **OK**.
 - The software version is displayed.

Software Upgrade

The software for controlling the built-in DTV decoder can be upgraded when necessary. In Great Britain this can be achieved via an Over Air Download.

Preparation

Confirm and make a note of the current software version number as in step 2 of **Software Version**.

Manual upgrade

- 1 Press **◀/▶** to select “Accessories”.
- 2 Press **▲/▼** to select “Software Upgrade”, and then press **OK**. The TV checks all carriers if there is a new software available for upgrade.

① If upgrade via Over Air Download is available at the time:

A confirmation message appears asking you to accept the upgrade or not.

To download now, press **◀/▶** to select “Yes”, and then press **OK**. After the upgrade is completed, the TV restarts automatically with the new software version installed.

To postpone the download, press **◀/▶** to select “No”, and then press **OK**. Enter the download time for more convenient time as instructed.

The software upgrade will not be carried out if there is no new software available at the specified download time.

② If upgrade via Over Air Download is NOT available at the time:

A message tells you that there is no software available to be downloaded.

- 3 Check the new software version number to confirm the successful upgrade.

Auto upgrade

- 1 When you tune to the service that provides the upgrade via Over Air Download, a confirmation message displays.
- 2 Follow the screen prompts.
- 3 Check the new software version number to confirm the successful upgrade.

NOTE

- To scan all carriers for upgrade availability, perform the manual upgrade.
- The software upgrade may take about 30 minutes, but may take longer (up to 1 hour) depending on the signal status. While updating, you cannot switch to TV or external input mode or enter standby mode using **↓** on the remote control unit.

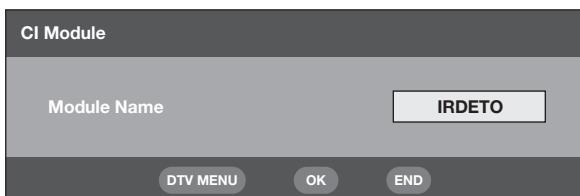
CAUTION

- **Do not cut off the power to the TV in any way when the software upgrade is in progress, as this may cause the upgrade to fail. If problem arises ask a qualified service personnel before the software upgrade period expires.**

Common Interface

Check the detailed information on the Common Interface module card in use.

- 1 Press **OK** while the cursor is on “Common Interface”.
 - The CI module name is displayed.

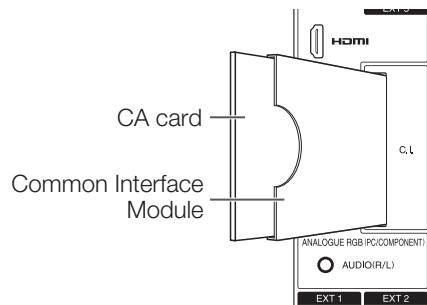


- 2 Press **OK** to access the CI menu.
 - Detailed information on the CI card in use is displayed.
- 3 Press **▲/▼** to select the item, and then press **OK**.
 - Detailed information on the selected item is displayed.

Inserting a CA card

A single DVB Common Interface (CI) will be implemented to allow adoption of a Conditional Access (CA) system by means of a plug-in CA module. Scrambled Broadcasting service can be routed via the CA system.

If the CA system on the CI module requires a smart-card reader, this reader shall be part of the CI module. When the compatible CA card is inserted, you can view the programme without any operations.



When the compatible card is not inserted:

- ① Select the programme which needs the compatible CA card.
 - The caution screen appears.
- ② Insert the compatible CA card.
 - The caution screen disappears and you can view the programme.

CA system supported by

Crypto Works
Aston CAM
VIAccess
Nagra Vision
Irdeto
MR CAM

NOTE

- To view paid TV broadcasting, you need to make a contract with a service provider.
Please contact a service provider for details.
- The Common Interface Module and the CA card are neither supplied nor optional accessories.

Supplying power to the antenna

You may choose to supply power through the antenna terminal. (Page 4)

NOTE

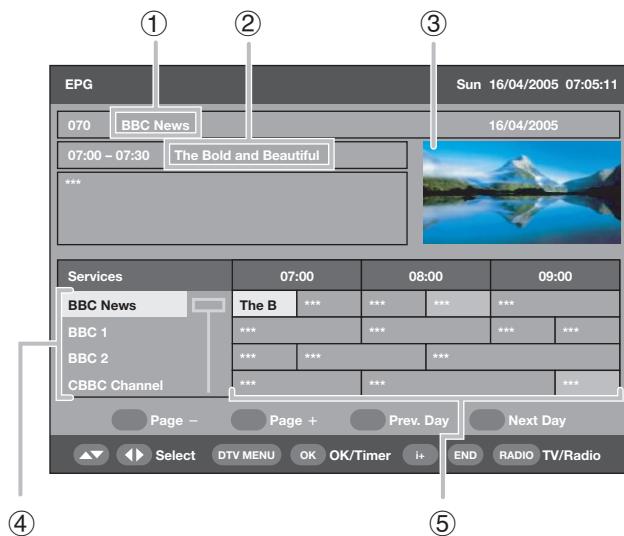
- This function is enabled using the Analogue Menu. See page 19 for details.

DTV menu operations

About EPG

With the Electronic Programme Guide (EPG), you can check the schedule of DTV and Radio events, view detailed information about them, tune to an event currently on-air and set a timer for future events.

General EPG screen



① Service name

② Event name

③ Picture window

④ Service list

- Shows the list of all services currently available. As you scroll down the list, the rows in the Event name list on the right will be refreshed correspondingly.

⑤ Event name list

- Shows the names of current events in a grid of rows and columns. You can check scheduled event information up to several days ahead, depending on conditions.
- If a received programme does not contain a name, either "No event name" or a blank space will be displayed. However, the programme can still be watched.

Using the EPG

1 Press **EPG**.

- Pressing **RADIO** will switch between DTV and Radio mode.

2 Press **▲/▼/◀/▶** to access the desired service or event.

- The image shown in the picture window changes.

In the Service list:

- Press **▲/▼** to scroll the page up/down. Or,
- Press **RED** (Page -) or **GREEN** (Page +) to skip to the previous/next page in one step.

In the Event name list:

- Press **◀/▶** to scroll the page left/right. Or,
- Press **YELLOW** (Prev. Day) or **BLUE** (Next Day) to skip to the previous/next day in one step.

3 To watch an event currently on-air, press **OK** (OK/Timer).

- The TV will show the image in full screen.
- Selecting an event that has not yet started will activate the EPG Timer mode instead.

NOTE

- Pressing **i+** opens the EPG Description screen that provides more information about the selected event. Press **i+** or **END** to exit.

Using the EPG Timer

When the Timer is set, the TV automatically tunes to a preset TV event when its on-air time begins.

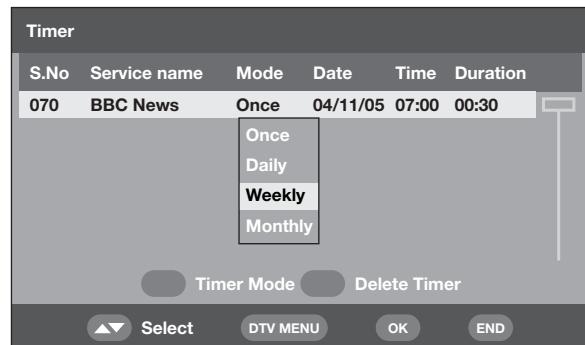
1 Press **EPG**.

2 Press **▲/▼/◀/▶** to select the desired event to be preset from the Event name list, and then press **OK** (OK/Timer).

- Select an event not yet started.

3 Press **RED** (Timer Mode), and then press **▲/▼** to select the desired parameter ("Once", "Daily", "Weekly", or "Monthly"), and then press **OK**.

- Once set, the preset event is indicated with an orange background in the EPG event name list.



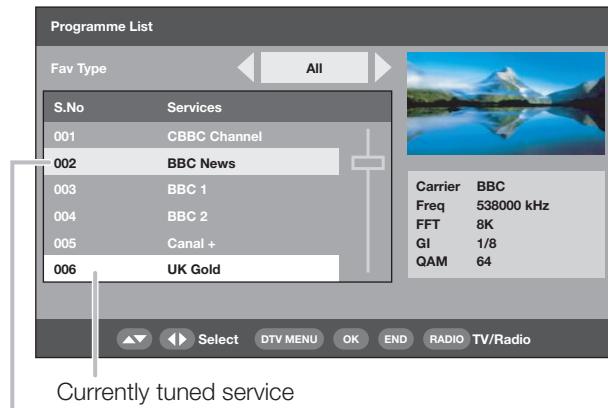
NOTE

- If using this function for recording, make sure to set the timer of your recording equipment as well.
- Do not switch channels while recording using this function.
- This function cannot be set for locked services or when Child Lock applies. (Pages 28 and 31)
- Up to 8 events can be preset using the Timer function.
- If the TV is in standby mode when the preset on-air time nears, it will output signals for recording without image displayed on the screen.
- If you are watching another event, an alarm message displays on the screen a few seconds before the preset time.
- To cancel the preset, select the event to delete, press **GREEN** (Delete Timer), press **◀/▶** to select "Yes", and then press **OK**.
- An alert message displays when the preset events overlap one another.
- The TV power may not come on for several seconds if you preset an event using the EPG Timer and if the power to the TV is cut off.
- Once you preset an event using EPG Timer, in DTV, and then press **OK** on the remote control to enter the standby mode, the power consumption will be higher than normal (about 27 W) until the programmed event is broadcast. When pressing **OK** on the TV to turn off the power, the power consumption will be same as normal standby consumption (about 2.7 W), and the EPG Timer will not be in operation.

Using the digital programme list

Select services by using the Programme List instead of using **0 - 9** numeric buttons or **P** (V/A).

- 1 Press **OK** when no other menu screen is displayed. (Except external input.)



Currently tuned service

Service shown in picture window

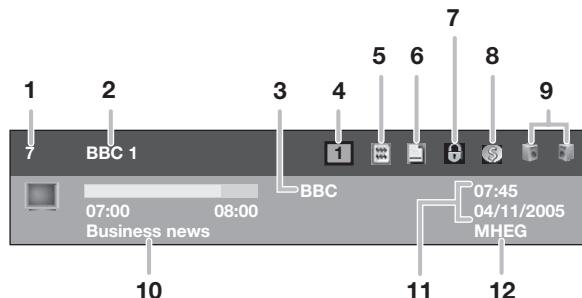
- 2 The screen shows the service list in either TV or Radio mode sorted by favourite type (All, Fav 1 - 4) as configured in page 28.
- 3 Press **A/V** to select the desired service, and then press **OK**.
 - The image shown in the picture window changes.
- 4 Press **END** to exit the Programme List to watch the image in full screen.

Viewing a service banner

A service banner shows event names, start/end time of event, and other useful information.

- 1 Press **i+**.

Service banner



- 1 Logical channel number
- 2 Service name
- 3 Carrier name
- 4 Favourite type
- 5 Teletext available
- 6 Subtitle available
- 7 Lock status
- 8 Scrambled service
- 9 Multi audio status
- 10 Current event name
- 11 Current date and time
- 12 MHEG5 service available

- 2 To display more detailed information, press **i+** again.

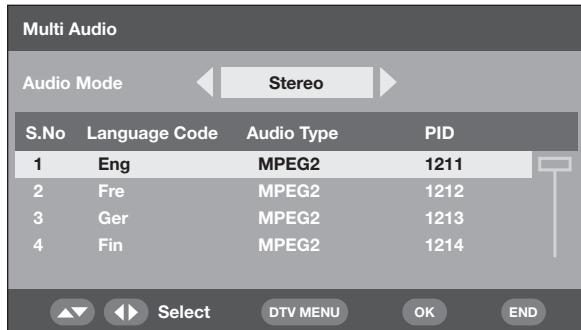
- You can verify the signal strength and quality of the selected service here.

DTV menu operations

Using the multi audio function

Change the audio mode and language for the currently viewed service.

- 1 Press  when no other menu screen is displayed.



- 2 Press  to select the desired audio mode (Left, Right, L+R, Stereo), and then press  to move down.
- 3 Press  to select the desired language available for the service, and then press **OK**.

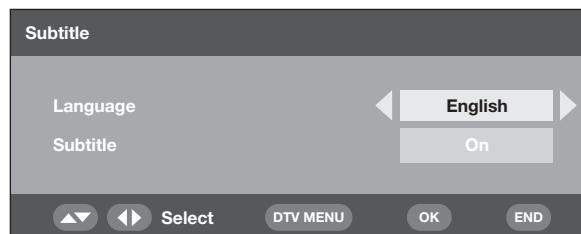
NOTE

- Once you tune to another service or the power is turned off, the setting returns to the parameter set in the Language menu. (Page 27)

Displaying subtitles

Set the desired language for the subtitle display and enable/disable the subtitle display.

- 1 Press  when no other menu screen is displayed.



- 2 Press  to select "Language",  to select the desired language available in the stream, and then press .
- 3 Select "Subtitle", press  to select "On" or "Off", and then press **OK**.
 - A confirmation message displays.
- 4 Press  to select "Yes", and then press **OK**.

NOTE

- When "Subtitle" is set to "On", the TV will automatically start subtitle presentation if tuned to a programme containing subtitle data.
- This function deactivates each time you turn off the TV.
- When you press  while watching DTV broadcasts, the message "No subtitle" may appear instead of the Subtitle OSD screen as mentioned. (This happens depending on the type of programme and happens even when the TV is actually receiving the subtitle data.)

In this case, press  first to activate the teletext mode, then press .

User for LC-46XL1E, LC-52XL1E:

- Subtitle is set to off when the power is turned on.

User for LC-46XL1S, LC-52XL1S:

- Subtitle is set to on when the power is turned on.

Using the MHEG5 application (UK only)

Some services bring you programmes with the MHEG (Multimedia and Hypermedia Expert Group) application encoded, letting you experience DTV interactively. When provided, the MHEG5 application will start when you press .

Sample MHEG5 screen



NOTE

- When "Subtitle" is set to "On", and the TV is tuned to a service containing both MHEG5 and subtitle data, the subtitle takes priority and subtitle presentation starts automatically. In this case press  to start the MHEG5 presentation.

Appendix

Troubleshooting

Problem	Possible Solution
• No power.	<ul style="list-style-type: none">Check if you pressed  on the remote control unit. If the indicator on the TV lights up red, press .Is the AC cord disconnected?Check if you pressed  on the TV.
• Unit cannot be operated.	<ul style="list-style-type: none">External influences such as lightning, static electricity, etc., may cause improper operation. In this case, operate the unit after first turning the power off, or unplugging the AC cord and re-plugging it in after 1 or 2 minutes.
• Remote control unit does not operate.	<ul style="list-style-type: none">Is the FUNCTION button set correctly? Set it to the TV setting position. (Page 37)Are batteries inserted with polarity (+, -) aligned?Are batteries worn out? (Replace with new batteries.)Are you using it under strong or fluorescent lighting?Is a fluorescent light illuminated to remote control sensor?
• Picture is cut off.	<ul style="list-style-type: none">Is the image position correct? (Page 21)Are screen mode adjustments (Auto format or Wide modes) such as picture size made correctly? (Pages 20 and 23)
• Strange colour, light colour, or dark, or colour misalignment.	<ul style="list-style-type: none">Adjust the picture tone. (Page 16)Is the room too bright? The picture may look dark in a room that is too bright.Check the colour standard. (Pages 19 and 20)Check the HDMI setup setting. (Page 18)
• Power is suddenly turned off.	<ul style="list-style-type: none">The unit's internal temperature has increased. Remove any objects blocking vent or clean.Is sleep timer set? Press SLEEP on the remote control unit until it sets to off.Is "No signal off" activated? (Page 21)
• No picture.	<ul style="list-style-type: none">Is connection to other components correct? (Pages 10 and 11)Is input signal type selected correctly after connection? (Page 18)Is the correct input source selected? (Page 22)Is non-compatible signal being input? (Page 41)Is picture adjustment correct? (Page 16)Is the antenna connected properly? (Page 4)
• No sound.	<ul style="list-style-type: none">Is the volume too low?Make sure that headphones are not connected.Check if you pressed  on the remote control unit.
• The TV sometimes makes a cracking sound.	<ul style="list-style-type: none">This is not a malfunction. This happens when the cabinet slightly expands and contracts according to change in temperature. This does not affect the TV's performance.

Cautions regarding use in high and low temperature environments

- When the unit is used in a low temperature space (e.g. room, office), the picture may leave trails or appear slightly delayed. This is not a malfunction, and the unit will recover when the temperature returns to normal.
- Do not leave the unit in a hot or cold location. Also, do not leave the unit in a location exposed to direct sunlight or near a heater, as this may cause the cabinet to deform and the LCD panel to malfunction.
Storage temperature: -20°C to +60°C.

IMPORTANT NOTE ON RESETTING THE PIN

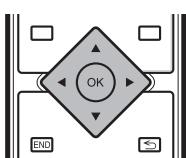
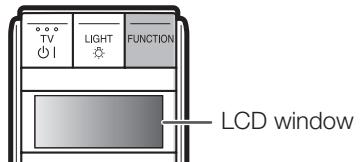
We suggest that you remove the following instruction from the operation manual to prevent children from reading it. As this operation manual is multilingual, we also suggest the same with each language. Keep it in a safe space for future reference.



- 1 Enter "3001" when PIN entry is required.
 - This operation cannot be performed from the DTV menu screen.
- 2 Restore the current PIN under "Change PIN" (TV menu > Setup > Child lock).

Using universal remote control

You can operate the connected AV products (DVD player/recorder, SetTopBox, VCR and others) by setting up your remote control as a universal remote control unit.



Presetting manufacturer code

- 1 Press **FUNCTION** repeatedly until you reach the device you wish to control. (TV, DVD1, DVD2, STB1, STB2 and VCR)
 - Press this button briefly (for more than 0.2 second) to move between the items.
- 2 Press and hold both **FUNCTION** and **OK** for 3 seconds.
 - In the LCD window, the 3-digit manufacturer code blinks.
- 3 Enter the 3-digit manufacturer code using **▲/▼**, **◀/▶**, and then press **OK**.
 - The TV returns to normal TV mode.

LCD Window Display	Category	Manufacturer
DVD1/DVD2	DVD player	Magnum - Zenith
	DVD recorder	JVC - Yukai
	DVD/LD	Pioneer
	DVD part of DVD/VCR	Bush - Toshiba
	DVD part of DVD/DVR	Panasonic - Toshiba
	HTIB*	Aiwa - Sony
	DVD part of SAT/DVD	Humax
	DVD part of TV/DVD	Bush - Toshiba
VCR	VCR part of DVD/VCR	Bush - Toshiba
	VCR part of TV/VCR	Aiwa - Toshiba
	VCR	Adelsound - Yoko
STB1/STB2**	SAT part of SAT/DVD	Humax
	SAT part of SAT-DVR	BSSkyB - Zehnder
	Satellite	AB Sat - Woorisat
	Satellite receiver	Hauppauge
	Satellite receiver/recorder	Humax - Kathrein
	Cable box	ABC - Wittenberg

* Home Theatre in a Box System

** SAT and CBL are integrated.

Manufacturer code

DVD	Manufacturer code	DVD	Manufacturer code
Sharp	029 128 143 177 191	Magnavox	002 106 165
Magnum	101	Marantz	049 098 200 201
Acoustic Solutions	001	Matsui	030
Aiwa	004 039 131 231	MBO	001 145
Akai	034 095	Mediencom	150
Akura	108	Medion	096 101 112 128 158
Alba	001 014 017 018 040	Metz	094
Apex	139	MICO	104
Awa	001	Micromaxx	096 101 128
Axion	001	Micromedia	002
Best Buy	107	Micromega	171
Boston	152	Microstar	096 101 128
Brainwave	034	Mirror	158
Brandt	002 012 030	Mitsubishi	125 166
Britannia	150	Mizuda	106 107
Bush	001 019 032 042 045 087 092 102 106 149 158 209 223 224 225 226	Monyka	103
Cambridge Audio	104 163	Mustek	001 100 198
CAT	153 154	Mx Onda	104
Celestial	161	NAD	143
Centrex	109	Naiko	109
Centrum	154	Nakamichi	147
CGV	104	Neufunk	103
Cinevision	157	NU-TEC	102
Classic	001 100	Omni	150
Clatronic	106	Onkyo	002 097 165
Coby	001	Optim	151
Conia	102	Optimus	168
Crypto	159	Orava	106
C-Tech	105	Orion	087
CyberHome	003 022 025 036	Oritron	096
Daewoo	023 038 078 113 114 115	P&B	106
Dalton	162	Pacific	105
Dansai	034 151 227	Palsonic	149
Daytek	005 020	Panasonic	013 079 093 123 164 194 195 214 232
DEC	106	Philips	233 002 006 027 035 043 044 049 074 098 121 127 165 171 181 202
Denon	123 138 164 188 199 210	Philips Magnavox	121
Denver	106 108 133	Pioneer	007 008 010 046 094 168 174 178 183 207 220
Denzel	103	Proline	109
Desay	155	Provision	106
Diamond	104 105	Raite	103
Digitor	160	RCA	135
DK Digital	032 176	REC	149 150
Dmtech	111	RedStar	108
Dual	001 103	Reoc	105
D-Vision	034	Revoy	156
DVX	105	Roadstar	001 014 106 149
Easy Home	107	Rowa	102 109
Eclipse	104	Rownsonic	154
Elta	034 124 134	Saba	012 030
Emerson	129	Sabaki	105
Enzer	103	Sampo	136
Euroline	034	Samsung	011 076 077 126 175 186 213 217
Finlux	104	Sansui	104 105
Fisher	132	Sanyo	028 033 089 179 189 218
Global Solutions	105	ScanMagic	001
Global Sphere	105	Schneider	096 110 111 112
Go Video	126	Scientific Labs	105
GoldStar	015	Scott	017 162
Goodmans	001 014 018 045 106 109 158 203 228	SEG	014 026 103 105 110 141
Graetz	103	Sherwood	140
Grundig	018 038 099 109 127	Shinco	135
H&B	106 156	Sigmatek	107
Haaz	104 105	Silva	108
Harmon/Kardon	144	Singer	104 105
HE	001	Skymaster	001 026 100 105 134
HIMAX	107	Skyworth	108
Hitachi	011 047 088 101 103 107 126 190 196 206 215	SM Electronic	001 105
Home Electronics	001	Sony	004 009 021 031 041 075 122 169 180 204 205 221 222
Humax	048	Soundmaster	105
Innovation	096 101 128	Soundmax	105
JDB	001	Standard	105
Jeutech	152	Star Cluster	105
JVC	002 016 080 081 082 083 084 085 120 173 182 184 212	Starmedia	106
Kenwood	037 123 142 170 208 211 219 229	Supervision	001 105
Kingavon	106	Synn	105
Kiss	103 156	TCM	096 101 128
Koda	106	Teac	094 102 105 192
KXD	107	Tec	108
Lawson	105	Technics	101 164 193 232
Lecson	151	Technika	034
Lenco	106	Technosonic	034
LG	015 024 090 129 185 216	Telefunken	154
Life	096 128	Tevion	096 101 105 128 162
Lifetec	096 101 128	Thomson	012 091 116 117 118 119 148 167 172 197
Limit	105	Tokai	103 108
Loewe	044 127	Toshiba	002 086 087 121 165 187
LogicLab	105		
Luxor	109		

Appendix

DVD	Manufacturer code	VCR	Manufacturer code	VCR	Manufacturer code	VCR	Manufacturer code		
TruVision	107	Sharp	001 015 028 032 063 064 073 089 149 150 151 153 165	General	052 058	Neckermann	050 054 057 060 154 179		
United	001	Aiwa	014 026 042 045 049 050 051 059 060 102 111 149 150 153	General Technic	006 043 051	NEI	054		
Voxson	001	Akai	045 050 058 060 128 149 150 153 158 193	Genexxa	123	Nesco	026 045 055		
Vtrek	159	Akiba	055	Go Video	157	Nikkai	052 055 058 061		
Wharfedale	104 105 130	Akura	050 055 060	GoldHand	055	Nokia	050 060 061 063 067 120 123		
Wintel	152	Alba	021 026 045 051 052 055 058 061 128 129 130	GoldStar	026 049 053 059 149 150 153 155 157 209	126 128 180 195			
Xbox	167	Allorgan	043 126	Goodmans	021 026 047 049 051 052 053 055 058 059 061 067 073 126 127	Nordmende	007 009 050 060 077 124 134 149 150 153 154 161 201 204 205		
Xlogic	105	Ambassador	052 058	Graetz	050 060 123 126	Oceanic	026 049 050 060 063 123		
XMS	149	Amstrad	026 049 055 061 149 162 189	Granada	026 054 057 059 063 071 120 123 126	Okano	051 055 061 128		
Yakumo	109	Anitech	055	Grandin	021 026 049 052 053 055 058 059 061 072	Optimus	155 156		
Yamada	109	Ansonic	056	Grundig	009 041 054 055 057 069 070 071 074 075 076 090 125 149	Orion	038 045 051 056 129 130 155 163 166 188 191 192		
Yamaha	006 013 123 137 164 230	ASA	053 054 059 149 150 153	Hanseatic	050 054 059 061	Orson	026 049		
Yamakawa	103 146	Asuka	026 049 053 054 055 059 149	Hanitor	058	Osaki	026 049 053 055 059		
Yukai	001	ASWO	179	Harwood	055	Osiume	127		
Zenith	002 129 165	Audiasonic	061	HCM	055 075	Otake	129 130		
DVD Recorder	Manufacturer code	AudioTon	058	Hinari	045 051 055 056 060 061 075 127	Otto Versand	054 187		
JVC	057 058 059 060	Baird	021 026 049 050 060 061 123 154	Hisawa	045 051 166	Palladium	050 053 055 056 057 059 060 071 126 128		
LG	065	Basic Line	021 051 052 055 058 061	Hitachi	005 016 019 026 049 050 054 056 060 098 115 120 123 126 149 150 153 175 185	Panasonic	002 006 008 023 031 037 069 086 091 101 124 131 137 149 150 151 153 155 167 169 171 174 190 198		
Panasonic	052 062	Bauer	160 187	Hypson	051 055 061	Pathe Cinema	056 114		
Philips	050 051 053 061 063 064	Baur	054 070	Impego	052 058	Pathe Marconi	050 060 154		
Sony	054 055 056	Beaumark	157	Imperial	026 049 126 149	Pentax	098		
Toshiba	067 068 069	Bestar	021 052 058 061	Ingersol	056 126	Perdio	026 049		
Yukai	066	Black Panther Line	021 061	Inno Hit	021 052 054 055 058 061 067 126	Philco	055 098		
DVD/LD	Manufacturer code	Blaupunkt	006 008 054 057 069 070 071 083 119 124 125 149 150 151 153 171 179	Innovation	006 043 051	Philips	005 011 017 019 020 026 041 046 054 057 062 065 071 076 077 087 090 092 093 095 100 104 108 110 136 149 150 153 179		
Pioneer	007	Blue Sky	051 059	Interbuy	053 055 059	Phonola	054		
DVD/VCR Combo	Manufacturer code	Bondstec	052 055 058	Interfunk	054 123	Pioneer	007 054 120 149 150 153 156 203		
Sharp	029 (DVD)/028 032 (VCR)	Brandt	009 060 132	Intervision	026 049 051 059 061 209	Portland	021 052 058 061		
Bush	087 (DVD)/036 (VCR)	Brandt Electronique	154	Irradio	053 055 059	Prinz	026 049		
Daewoo	078 (DVD)/029 (VCR)	Brinkmann	051	ITT	050 060 077 123 126	Profex	055		
Hitachi	088 (DVD)/025 (VCR)	Broksonic	155 157	ITT Nokia	154	Profi-Tronic	126		
JVC	080 081 082 083 084 085 (DVD)/ 007 025 033 034 (VCR)	BSR	188	ITV	021 053 058 059 061	Proline	026 049 075 127		
LG	015 (DVD)/014 030 (VCR)	Bush	021 026 036 042 045 051 055 061 075 127 128 129 130	JBL	147	Prosonic	026 051 061		
Orion	087 (DVD)/038 (VCR)	Carrefour	121	JC Penney	098 155 157	Pulsar	157		
Panasonic	079 (DVD)/031 037 (VCR)	Casio	026	JVC	007 025 033 034 050 060 077 078 079 098 105 106 140 149 150 153 154 161 200 204	Pye	005 054		
Philips	074 (DVD)/026 (VCR)	Cathay	061	Kaisui	055	Quasar	155		
Samsung	076 077 (DVD)/210 (VCR)	Catron	052 058	Karcher	054	Quelle	049 054 057 070 071 149 150 153 179 181 182 187		
Sanyo	089 (DVD)/039 (VCR)	CGE	026 049 050 060 149	Kendo	018 021 051 052 055 059 128	Radialva	055 059 063		
Sony	075 (DVD)/027 (VCR)	Cimline	051 055	Kenwood	050 060	Radio Shack	155		
Toshiba	086 (DVD)/035 (VCR)	Clatronic	052 055 058	Kimari	122	Radioola	054 151		
DVD/DVR	Manufacturer code	Combitech	045	Kneissel	045 051	Realistic	155 157		
Panasonic	052 062	Condor	021 052 058 061	Korpel	055	Rex	050 060 077 154 161		
Pioneer	070 071 072	Continental Edison	154	Kuba	122	RFT	052 054 055 058		
Samsung	073	Crown	021 052 055 058 061	Kyoto	055	Roadstar	021 042 045 053 055 059 061 067 126		
Toshiba	067	Curtis Mathes	157	Lenco	021	Royal	055		
HTIB	Manufacturer code	Cybermaxx	072	Leyco	055	Saba	009 050 060 077 138 139 149 150 153 154 161		
Aiwa	231	Daewoo	018 021 029 040 045 052 058 061 072 121	LG	010 014 024 026 030 049 053 059 112	Saisho	051 055 056 162		
DK Digital	176	Dansai	055 061	Lifetec	006 043 051 072	Salora	080 114 123 149 150 153 180		
Hitachi	215	Dantax	051	Loewe	006 137	Samsung	210 043 067 126 157 176 194 196		
JVC	184	Daytron	021 061	Loewe Opta	053 054 056 057 059 071 124 131 151 169 179 209	Samurai	007 052 055 060		
Kenwood	219	De Graaf	054	Logik	055 056 067 126	Sansui	007 050		
LG	216	Decca	007 026 049 050 054 060	Lumatron	021 061 072	Sanwa	056		
Mustek	198	DeGraaf	063 120 123	Luxor	055 063 073 080 114 122 123 149 150 153 180 195	Sanyo	039 063 099 109 122 123 149 150 153 180		
Panasonic	194 195 214	Denko	055	M Electronic	026 049 059	Saville	045 061 126		
Pioneer	220	Denon	098	Magnin	157	SBR	054		
Samsung	213	Diamant	059 209	Manesth	018 055 121	Schaub Lorenz	026 049 050 060 123		
Sanyo	189 218	Dual	026 050 054 060 061 154	Marantz	054 057 071 073 179	Schneider	018 021 026 049 051 052 053 054 055 059 061 126 149 150 153		
Sony	205 221 222	Dumont	026 049 054 123	Mark	061	Scott	155		
SAT/DVD	Manufacturer code	Eltbe	061	Matsui	026 045 051 053 056 059 126 133 162 164	Sears	098 155		
Humax	048	Elcotech	055	Mediator	054	SEG	055 061 067 126		
TV/DVD Combo	Manufacturer code	Elin	067 126	Medion	006 043 051 072	SEI-Sinudyne	054 056 188		
Bush	092	Elsay	055	M-Electronic	026 059 209	Seleco	050 058 059 060 154 161		
LG	090	Etta	055 061	Memorex	026 049 053 059 063 098 122 123 155	Sentra	052 055 058 127		
Panasonic	093	Emerson	055 121 155	Memphis	055	Sentron	055		
Thomson	091	ESC	021 058 061 126	Metz	006 008 057 070 071 124 125 131 179 181 187	Shintom	055 123		
Toshiba	087	Etzuko	055	MGN	157	Shivaki	053 059		
TV VCR combo	Manufacturer code	Euophon	058	Ferguson	007 009 026 050 060 071 132 201 202 204	Micromaxx	006 043 051 072	Shorai	056
Aiwa	042	Fidelity	026 049 055	Firstline	018 051 053 055 059 080 114 120 121 127	Microstar	006 043 051 072	Siemens	053 057 059 070 071 123 125 179 181 187
Bush	042	Finlandia	026 054 063 120 123	Fisher	058 122 123 149 150 153 159 178	Migros	026 049	Silva	053 059
Daewoo	021 040	Finlux	026 049 050 054 080 120 123 149 150 153 197 207	Flint	051	Minerva	070 071 125 181 187	Silver	061
GoldStar	209	Firstline	018 051 053 055 059 080 114	Formenti/Phoenix	054	Minolta	098	Sinudyne	054 056
Goodmans	047	120 121 127	Frontech	052 058	Fujitsu	026 049	Mitsubishi	007 049 054 080 107 114 149 150 153 155 170 199	
Grundig	041	Fisher	058 122 123 149 150 153 159 178	G-Force	054	Galaxy	026 049	Multitech	026 049 052 054 055 058 123
Orion	045	Flint	051	Frontech	054	GBC	052 055 058	Murphy	026 049
Philips	041 046	Formenti/Phoenix	054	G-Force	054	GE	157	National	006 069 124
Roadstar	042 045	G-Force	054	GE	157	GEC	054	NEC	007 050 060 154 155 177
Samsung	043	G-Force	054	GEC	054	Geloso	055	Sonokoo	021 061 072
Sony	044	G-Force	054	Geloso	055			Sonnetclair	055
Tatung	042	G-Force	054					Sonokoo	021 061 072
Toshiba	042 043 045 048	G-Force	054						
VCR	Manufacturer code	Adelsound	056						
Adyson	055								

Appendix

VCR	Manufacturer code	Satellite	Manufacturer code	Satellite	Manufacturer code	Satellite	Manufacturer code
Sonorol	063	ASA	090	Eurosat	298 001 038	Lorenzen	045 050 078 101
Sontec	053 059	Asat	077 001 139	Eurosky	044 045 049 050 053 088 002	Lupus	049 088 001 039
Sony	003 004 013 022 027 044 066	ASLF	004	038 039	044 053 055 057 104 001 038	Luxor	050 071 084 156 168 288 305
	068 082 083 084 085 088 094	AST	082 288 001 114	Eutelsat	004	306 313 331 001 111	
	096 097 103 113 116 117 118	Astacom	056 161	Eutra	097	M & B	
	119 145 146 147 160 168 184	Astra	004 053 071 085 093 288 005	Exator	095 002 036 106	Manata	052 157
	185 186		038 111 112 113 133	Fenner	004 047 049 052	Manhattan	004 045 046 056 161
Soundwave	059	Astro	020 022 048 049 050 053 088	Ferguson	068 076 158 327 328 335 336	Mascom	056 161 298 004 037 042 107
Standard	021 061		095 159 004 039 040 106 107	004 037 043 108 118	Maspro	118	
Starlite	059 123	AudioTon	095 002 042 106	Fidelity	050 079 098	092 001 107	
Stern	061	Aurora	059	Finlandia	071 001 037	004 020 022 051 070 078 097	
Sunkai	051	Austar	059 065	Finlux	071 091 156 329 340 003 037	162 288 305 313 331 003 037	
Sunstar	026 049	Avalon	089	111 126	118 136		
Suntronic	026 049	Axiel	056	Flair Mate	004	Matsui	
Sunwood	055	Axis	049 087 088 093 003 039 113	Foxtel	059 064 065	020 022 051 056 086 161 346	
Supra	059 126	Barcom	305 313 331 001 110	Fracarro	167 305 313 331 334 001 141	001 143	
Symphonic	026 055	Best	049 088 002 039 110	Freecom	022 050 002 036 128	Max	
Taisho	051 056	Blaupunkt	020 022 001 040	Freesat	060 097	052 157 001 135	
Tandberg	061 070	Blue Sky	004 061	FTE	088 094 160 291 308 337 002	Mediabox	
Tansai	149	Boca	004 045 094 160 177 180 192	109 130	048 081 166		
Tashiko	026 049 059 063 126		197 204 207 208 216 223 250	FTEmaximal	004 049	Medison	
Tatung	026 042 049 050 054 060 063		260 269 002 038 133	Fuba	022 044 049 071 088 089 274	004	
	114	Boston	045 056	285 300 334 009 036 039 040	Mega		
TCM	006 043 051 072	Brain Wave	078 083 001 041	110 112 116 125 126 139	Meletronic		
Teac	026 060 061	Broadcast	085 001 117	Fujionkyo	062	322	
Tec	052 055 058 061	Broco	004 093	Funai	323	004 046 057 061 069 080 095	
Technics	006 069	BSkyB	008 165	Galaxis	044 049 059 065 080 087 088	036 106 107 110	
Teleavia	050 060	BT	056	093 144 289 298 326 008 039	Metz	020 022 297 001 040	
Telefunken	007 009 050 060 077 078 081	BT Satellite	161 001 143	042 106 113 119 127 145 246	Micro		
	132 135 149 150 153 154 161	Bubu Sat	004	Galaxisat	082	004 050 053	
	206	Bush	068 076 086 005 037 108 118	Gardiner	057	039 135 145 147 150	
Teletech	055 061		127 141	Giucar Record	305 313 331	Micromaxx	
Tenosal	055	BVW	078	Goldbox	048 081 166	Microtec	
Tensai	026 049 053 055 056 059 149	Cable	296	Gooding	051	Minerva	
Tevion	006 043 051 072	Cambridge	050 160 305 313 331	Grandin	046 069	Morgan's	
Thomson	007 009 050 060 065 077 078	Canal Satellite	048 081 166	Grundig	008 020 022 050 051 059 061	004 045 077 094 160 003 038	
	098 132 134 138 141 142 143	Canal+	048 001 142	G-Sat	076	133 139	
	144 148 152 154 156 157 161	Channel Master	086 001 105	Hanseatic	052 157 001 135		
	201 204	Chaparral	305 313 322 331 001 136	Hänsel & Gretel	045 053	Motorola	
Thorn	050 059 060 123 154 161 208	CHEROKEE	056 066 285	Hantor	083 003 036 041 132	058	
Tivo Hdd	065 088	Chess	004 047 052 001 147	Hase & Igel	078	Multichoice	
Tokai	053 055 059 060 123 149	CityCom	044 053 057 065 002 037 120	Hisawa	083 001 041	059 001 059	
Tonsai	055		294	Heliocom	053 001 109	Multistar	
Toshiba	012 018 035 042 043 045 048	Clatronic	083 001 041	Helium	053	308 002 130 132	
	050 054 060 077 080 114 121	Clearmax	275	Hirschmann	020 021 022 049 050 053 056	447 001 147	
	154 162 172	Colombia	045	060 089 090 092 153 156 340	004 040 129	Muratto	
Towada	055 183	Columbia	045	093 001 041	004 042 113	Mysat	
Towika	055	COLUMBUS	285 001 125	Hisawa	083 001 041	004 050 053 078 093 094 003	
TVA	052 058	Comag	045	HNE	045	094 078	
Uher	053 059 126 154	Commander	078	Houston	078	095 001 041	
Ultravox	061	Commlink	080 001 106	Humax	005 007 017 065 144 272 001	095 001 041	
Unitech	067 126	Condor	049 053 088 001 039	Huth	045 053 063 078 080 083 085	096 001 038	
United Quick Star	021 061	Connexions	049 088 089 001 116	087 094 007 038 041 042 106	012 013 023 071 090 156 168		
Universum	026 049 051 053 054 057 059	Conrad	044 045 049 050 053 088 094	117 119 129	176 188 190 196 210 211 214		
	070 071 076 125 126	Conrad Electronic	156	Hypson	046 274	219 221 224 227 247 249 253	
Victor	007 078	Contec	004 053	ID Digital	065	257 268 271 280 281 283 288	
Videon	006 043 051	Daewoo	087 094 002 119 120	Intervision	053 096 001 042	340 005 037 111 118 171	
Wards	155 157	Discovery	002 004	ITV/Nokia	071 090 156 168	Nordmende	
Weltblick	053 059	Diseqc	068 076 001 108	JEEMON	298 305 313 331	083 086 158 333 344 335 336	
Yamishi	055	D-Box	168	Johansson	083 305 313 324 331 001 041	005 036 037 043 105 107	
Yokan	055	DDC	086 001 105	JOK	056 100 161	Nova	
Yoko	052 053 055 058 059 067 126	Dew	087 001 119	KVC	051	059	
		Digitality	053	Kamm	004	Novis	
		Digiro	062	Kathrein	003 004 005 010 015 016 020	Octagon	
		Discoverer	047 052	022 044 056 057 066 077 092	004 087 095 334 003 036 106		
		Discovery	056	095 159 169 287 288 305 308	119	010 001 041	
		Diseqc	056	095 160 170 171 172	Okano		
		Distratel	061	095 161 162 164 166 169 235	Ondigital		
		Distrisat	077	095 163 164 165 166 168 245	Optex		
		DNR	078	095 164 165 166 167 168 246	Orbitech		
		DNT	077 089 002 116 139	004 048 050 094 154 155 001			
		Drake	305 307 313 331 001 123	036			
		DStv	059	084 001 106			
		Dune	049 088	Packsat			
		Dynasat	055	056			
		Echostar	004 066 089 166 167 238 241	Palcom			
			245 273 274 276 285 290 305	105 112 125			
			310 313 325 330 331 002 116	Palladium			
			147	050 051 001 038			
		Einhell	004 045 050 079 080 003 036	Palsat			
			038 106	047 050 291			
		Elap	004 056	Panasat			
		Elsat	004 099	054 059			
		Eltta	049 077 088 298 332 004 036	Panasonic			
			039 042 139	001 008 165 003 037 118 140			
		EmmeEsse	049 055 088 167 003 039 118	Panda			
			129 312	022 053 068 071 002 037 108			
		Engel	004	Patriot			
		EURIEULT	046 060 061 274	045 056			
		Eurocrypt	071	Philips			
		Europa	050 053 077 078 094	011 020 022 048 051 056 057			
		Europhon	045 053	072 073 076 077 078 081 094			
				095 161 162 164 166 169 235			
				240 242 004 037 118 139 170			
				076 087 002 119 127			
				Phonetrend			
				080 144 004 037 042 106 129			
				Pioneer			
				048 166 315			
				Predki			
				083 001 041			
				Preisner			
				045 089 094 160			
				Premier			
				048			
				048 065 081 166 183 210 211			
				217 227 271 002 042 142			
				Profile			
				056			

Appendix

Satellite	Manufacturer code	Satellite	Manufacturer code	Satellite	Manufacturer code	Cable Box	Manufacturer code
Prosat	080 086 096 305 313 331 004	Technology	059	Elekta	107	Clyde Cablevision	351
	105 106 127 141	Technosat	063	Emanon	036	Comcrypt	376
Prosonic	101	Technowelt	045 053 061	Ep Sat	037	Cryptovision	352
Pye	051	Telanor	285 300 001 105	Eurodec	043	Fidelity	380
Quadral	049 056 066 080 086 088 094	Telasat	044 052 053 157 001 135	Eurospace	124	Filmnet	376
	096 161 311 341 342 343 344	Tele Plus	296	Finnsat	043 119	Filmnet Cablecrypt	353 369
Quelle	044 053 079 001 040	Teleciel	095	France Satellite/TV	125	Filmnet Comcrypt	353
Radiola	077 001 139	Telecom	004	Galaxi	110	Finlux	355
Radix	009 060 089 097 116 203 213	Teledirekt	076	GMI	038	Foxtel	378
	256 003 172 174	Telefunken	056 161 334 338 003 036 118	GoldStar	128	France Telecom	371 372 377
Rainbow	095 097 001 106		143	Goodmans	037 127	Freebox	379
Red Star	049 088	Teleka	050 053 078 089 092 095 162	Grothusen	036 128	GEC	351
Redpoint	093 001 113		003 038 106 116	Hanuri	107	General Instrument	367 375
Rex	334	Telesat	052 053 157 001 135	Hitachi	037 118	Gooding	354
RFT	077 078 080 154 002 106 139	Telesat	047 048 050 001	Houston	042	Grundig	380 354
RITAR	288	Teletech	104	Imperial	127 141	Hirschmann	355
Roadstar	004	Televés	045 050 002 037 149	Innovation	039 135 145 147 150	ITT Nokia	355
Roch	046	Tempo	063	Intertronic	038	Jerrold	356 362 364 367 375
Rover	004 049 096	Tensai	303	ITV Nokia	037 111 118	JVC	354
Saba	044 053 056 061 076 078 100	Tevion	004 005 039 135 145 147 150	JSR	042	Macab	372 377
	158 161 333 339 004 107 118	Thomson	004 024 026 028 030 031 044	Leng	041	Maspro	354
	124 141		048 053 056 081 158 230 231	Lennox	042	Matsui	354
Sagem	102 001 043		232 233 234 242 335 037 043	LG	128	Minerva	354
Sakura	087 305 313 331 002 119 127	Thom	305 313 331 003 037 108 118	Life	145	Mnet	369 376
Salora	071 288 306 002 111 137	Tioko	045 001 120	Lifetec	039 135 145 147 150	Movie Time	361
Samsung	006 019 275 308 314 001 036	Tokai	077	Lion	124	Mr Zapp	377
SAT	050 082 098 003 105 114 115	Tonna	004 050 085 003 037 042 117	Lorraine	128	Multichoice	376
Sat Cruiser	063	Triad	082 003 114 115 128	Lyonnaise	043	Nokia	355
Sat Partner	050	Triasat	050 091 001 126	Macab	043	Noos	377
Sat Team	004	Triax	004 044 045 050 091 316 317	Marantz	139	Palladium	354
Satcom	052 053 085 157 309 334 002		318 319 320 002 040	Mediamarkt	038	Philips	354 363 371 372 377
	117 135	Tristar	291	Microstar	039 135 145 147 150	Pioneer	380 357 358
Satc	004 076 001 118	Turnsat	004	Mitsubishi	037 040 143	PVP Stereo Visual	364
Satelco	049 088	Twinner	004 045 046 001 149	Mitsumi	133	Matrix	
Satford	085 001 117	UEC	059 064	Morgan Sydney	149	Sagem	372 377
Satline	096	Ulher	047	Next Wave	146	SAT	380
Satmaster	085 001 117	Ultravox	298	Nomex	151	Scientific Atlanta	359 360
SatPartner	083 006 036 041 106 107 128	Uniden	098 278 293 305 313 331 001	Oceanic	122 124	Starcom	375
	129		138	Orbit	114	Tele+1	353 369 376
Satplus	047	Unisat	045 077 087 002 038 119	Origo	124	Telepiu	369 376
Schacke	095	Universum	020 022 044 051 053 090 098	Otto Versand	040	Torx	375
Schneider	047 056 164 004 039 145 147		101 001 040	Pacific	122	United Cable	364
	150	Variosat	020 022	Paltec	112	Universum	354 355
Schwaiger	045 047 052 053 061 076 094	Vega	049	Polsat	043	Videoway	365
	157 006 120 122 135 144 146	Ventana	077 001 139	Polytron	120	Visiopass	355 371 372 377
	246	Vestel	101	Priesner	038	Wittenberg	380
SCS	044	Viasat	066	Profi	134		
Sedea Electronique	045 062	Visionic	062	Promax	037		
Seemann	088 093 003 038 113 116	Visiosat	004 056 100 041 042 147 148	Protek	122		
SEG	049 052 083 088 101 157 184	Viva	078	Provision	107		
	186 189 199 206 215 225 258	Vivid	064	Quiero	043		
	261 263 334 004 036 039 041	Vortec	032 321 334 001 036	Rediffusion	137		
	135	VTech	057 001 115 082 100 114	Redstar	039		
Seleco	167 334 001 042	Wela	094	Ruefach	134		
Septimo	061	Welltech	047	Sabre	037		
Servi Sat	004 046	WeTeKom	047 050 052	Silva	128		
Siemens	020 022 160 294 297 001 040	Winersat	083 305 313 324 331 001 041	Sky Digital	140		
Skantin	004	Wintergarten	080	Skyvision	042		
Skardin	093 001 113	WINTERNITZ	279 288	Start Trak	036		
Skinsat	050	Wisi	020 022 050 053 082 089 094	Sumida	038		
SKR	004		100 116 178 185 190 191 197	Tandy	106		
SKY	058		200 209 218 219 220 222 226	Tantec	037 050 118 125		
Skymaster	004 014 034 047 052 080 096		252 254 255 256 265 266 318	Tatung	121		
	104 157 182 199 202 205 212		005 037 040 114 115	TCM	039 135 145 147 150		
	223 229 262 267 003 106 135	World	083	Teco	038 133		
	147	Worldsat	056	Telemaster	107		
Skymax	077 001 139	Xryton	049 088	Telemax	131		
SkySat	004 047 050 052 053 335	XSat	004 066	Telewire	042		
SL	045 078	Zaunkonig	078	Thorens	122		
SM Electronic	004 047	Zehnder	025 044 049 057 082 088 101	TPS	102		
Smart	004 044 045 060		304 308 318 005 039 107 110	Unitor	041 110		
Sony	048 244 001 140		115 130	Variostat	040		
SR	045 002 038 133	Zenith	058	Vector	124		
Starland	004 001 147	Zinwell	065	Via Digital	024		
Starring	083 001 041	Zodiac	095 001 106	Vivanco	152		
Strong	049 059 062 088 186 187 189	Cabletime	305 313 331	Wevasat	037		
	193 198 201 210 216 227 228	Kenwood	305 313 331	Wewa	037		
	248 270 291 299 305 312 313	Apollo	036	Woorisat	107		
	331 300 036 039 106 128 141	Aston	148				
STVI	046 274	Brandt	143				
Sunny Sound	049 088	Clemens Kampfus	129				
Sunsat	004 093	CNT	107				
Sunstar	045 049 088 002 038 133	Comtech	119				
Super Sat	055	Cosat	042				
Supermax	063	Crown	038				
Systec	045	Cybermaxx	150				
Tandberg	285 001 043	Daeryung	116				
Techniland	085 001 117	Decca	121				
TechniSat	347 011 047 048 050 067 077	Delega	105				
	154 155 173 175 179 181 191	Diamond	122				
	194 195 220 251 259 264 301	Diskxpress	110				
	302 345 004 116	Ditristrad	042				
	Dong Woo	Dong Woo	132				
Satellite Receiver	Manufacturer code	Satellite Receiver/ Recorder	Manufacturer code	Cable Box	Manufacturer code	SAT/DVD	Manufacturer code
Hauppauge	018 029	Humax	005	ABC	375	Humax	005 (SAT)/048 (DVD)
		Kathrein	033	Alcatel	373 374		
				Amstrad	378 380		
				Arcon	380		
				Axis	380		
				Cabletime	348 349 350 366 368 370		

Appendix

PC compatibility chart

Resolution		Horizontal Frequency	Vertical Frequency	VESA Standard
VGA	640 × 480	31.5 kHz	60 Hz	✓
SVGA	800 × 600	37.9 kHz	60 Hz	✓
XGA	1024 × 768	48.4 kHz	60 Hz	✓
WXGA	1360 × 768	47.7 kHz	60 Hz	✓
SXGA	1280 × 1024	64.0 kHz	60 Hz	✓

VGA, SVGA, XGA, WXGA and SXGA are registered trademarks of International Business Machines Co., Inc.

NOTE

- This TV has only limited PC compatibility, correct operation can only be guaranteed if the video card conforms exactly to the VESA 60Hz standard. Any variations from this standard will result in picture distortions.

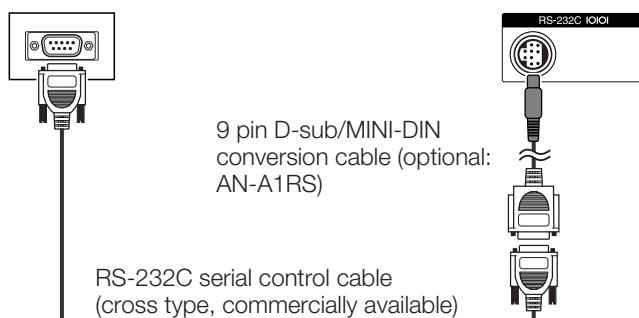
RS-232C port specifications

PC Control of the TV

- When a program is set, the TV can be controlled from the PC using the RS-232C terminal. The input signal (PC/video) can be selected, the volume can be adjusted and various other adjustments and settings can be made, enabling automatic programmed playing.
- Attach an RS-232C cable cross-type (commercially available) to a 9 pin D-sub/MINI-DIN (optional: AN-A1RS) for the connections.

NOTE

- This operation system should be used by a person who is accustomed to using PCs.



Communication conditions

Set the RS-232C communications settings on the PC to match the TV's communications conditions. The TV's communications settings are as follows:

Baud rate:	9,600 bps
Data length:	8 bits
Parity bit:	None
Stop bit:	1 bit
Flow control:	None

Communication procedure

Send the control commands from the PC via the RS-232C connector.

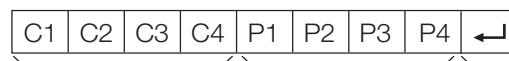
The TV operates according to the received command and sends a response message to the PC.

Do not send multiple commands at the same time. Wait until the PC receives the OK response before sending the next command.

Make sure to send "A" with the carriage return and confirm that "ERR" returns before operating.

Command format

Eight ASCII codes + CR



Command 4-digits: Command. The text of four characters.

Parameter 4-digits: Parameter 0 – 9, blank, ?

Parameter

Input the parameter values, aligning left, and fill with blank(s) for the remainder. (Be sure that four values are input for the parameter.)

When the input parameter is not within an adjustable range, "ERR" returns. (Refer to "Response code format".)

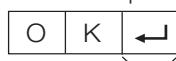
0			
0	0	0	9
-	3	0	
1	0	0	
0	0	5	5

When "?" is input for some commands, the present setting value responds.

?			
?	?	?	?

Response code format

Normal response



Problem response (communication error or incorrect command)



Return code (0DH)

After sending the return code (0DH), make sure to send line feed (0AH) as well.

Appendix

Commands

CONTROL ITEM	COMMAND	PARAMETER	CONTROL CONTENTS			
POWER SETTING	P O W R	0 _ _ _	POWER OFF			
INPUT SELECTION A	I T V D	_ _ _ _	TV (CHANNEL FIXED)			
	I D T V	_ _ _ _	DTV (CHANNEL FIXED)			
	I A V D	* _ _ _	EXT1 - 6 (1 - 6)			
	I A V D	? ? ? ?	1 to 6, 0 (TV/DTV)			
CHANNEL	D C C H	* * _	TV DIRECT CHANNEL (0 - 998)			
	D C C H	? ? ?	0 to 998			
	C H U P	_ _ _ _	CHANNEL UP			
	C H D W	_ _ _ _	CHANNEL DOWN			
	D T V D	* * _	DTV DIRECT CHANNEL (1 to 999)			
	D T V D	? ? ?	1 to 999			
	D T U P	_ _ _ _	DTV CHANNEL UP			
	D T D W	_ _ _ _	DTV CHANNEL DOWN			
INPUT SELECTION B	I N P 1 0	_ _ _ _	EXT1 (Y/C)			
	I N P 1 1	_ _ _ _	EXT1 (CVBS)			
	I N P 1 2	_ _ _ _	EXT1 (RGB)			
	I N P 1	? ? ? ?	0 to 2			
	I N P 2 0	_ _ _ _	EXT2 (Y/C)			
	I N P 2 1	_ _ _ _	EXT2 (CVBS)			
	I N P 2	? ? ? ?	0 to 1			
	I N P 3 0	_ _ _ _	EXT3			
	I N P 4 0	_ _ _ _	EXT4 (RGB)			
	I N P 4 1	_ _ _ _	EXT4 (COMPONENT)			
	I N P 4	? ? ? ?	0 to 1			
	I N P 5 0	_ _ _ _	EXT5 (HDMI)			
	I N P 6 0	_ _ _ _	EXT6 (HDMI)			
AV MODE SELECTION	A V M D 0	_ _ _ _	AV MODE SELECTION			
	A V M D 1	_ _ _ _	STANDARD			
	A V M D 2	_ _ _ _	SOFT			
	A V M D 3	_ _ _ _	ECO			
	A V M D 4	_ _ _ _	DYNAMIC			
	A V M D 5	_ _ _ _	USER			
VOLUME	V O L M	* _ _	VOLUME (0 - 63)			
	V O L M	? ? ?	0 to 63			

NOTE

- If an underbar (_) appears in the parameter column, enter a space.
- If an asterisk (*) appears, enter a value in the range indicated in brackets under CONTROL CONTENTS.

CONTROL ITEM	COMMAND	PARAMETER	CONTROL CONTENTS			
GEOMETRY	H P O S	* * * _	H-POSITION AV (-10 - +10) PC (0 - 80)			
	H P O S	? ? ? _	AV (-10 - +10) PC (0 - 80)			
	V P O S	* * * _	V-POSITION AV (-10 - +10) PC (0 - 40)			
	V P O S	? ? ? _	AV (-10 - +10) PC (0 - 40)			
WIDE MODE	P H S E	* * * _	PHASE PC (-20 - +20)			
	P H S E	? ? ? _	PC (-20 - +20)			
	W I D E 0	_ _ _ _	WIDE MODE (Toggle)			
	W I D E 1	_ _ _ _	FULL (SD)			
MUTE	W I D E 2	_ _ _ _	NORMAL (SD)			
	W I D E 3	_ _ _ _	PANORAMA (SD)			
	W I D E 4	_ _ _ _	CINEMA 16:9 (SD)			
	W I D E 5	_ _ _ _	CINEMA 14:9 (SD)			
	W I D E 6	_ _ _ _	FULL (HD)			
	W I D E 7	_ _ _ _	UNDERSCAN (HD)			
	W I D E 8	_ _ _ _	FULL (PC)			
	W I D E 9	_ _ _ _	NORMAL (PC)			
SURROUND	W I D E ?	? ? ? _	1 to 9			
	M U T E 0	_ _ _ _	MUTE (Toggle)			
	M U T E 1	_ _ _ _	MUTE ON			
	M U T E 2	_ _ _ _	MUTE OFF			
AUDIO CHANGE	A C S U 0	_ _ _ _	SURROUND (Toggle)			
	A C S U 1	_ _ _ _	SURROUND ON			
	A C S U 2	_ _ _ _	SURROUND OFF			
	A C S U ?	? ? ? _	1 to 2			
SLEEP TIMER	A C H A	_ _ _ _	SOUND SELECT (ST/Bilingual/mono)			
	O F T M 0	_ _ _ _	OFF			
	O F T M 1	_ _ _ _	30 m			
	O F T M 2	_ _ _ _	1 h 00 m			
	O F T M 3	_ _ _ _	1 h 30 m			
	O F T M 4	_ _ _ _	2 h 00 m			
	O F T M 5	_ _ _ _	2 h 30 m			
	O F T M ?	? ? ? _	0 to 150			
TEXT	T E X T 0	_ _ _ _	TEXT OFF			
	T E X T 1	_ _ _ _	TEXT CHANGE			
	T E X T ?	? ? ? _	0 to 1			
	D C P G *	* * * _	DIRECT PAGE JUMP (100 - 899)			
	D C P G ?	? ? ? _	100 to 899			

Rating table for Child Lock

Broadcasted rating User-adjusted rating	AGE														
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Universal	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parental	✓	✓	✓	✓	✓	✓	—	—	—	—	—	—	—	—	—
X-rated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Broadcasted rating User-adjusted rating	Universal			Parental			X-rated		
Universal	—			—			—		
Parental	✓			—			—		
X-rated	✓			✓			—		

Appendix

Specifications

Item			46" LCD COLOUR TV, Model: LC-46XL1E, LC-46XL1S	52" LCD COLOUR TV, Model: LC-52XL1E, LC-52XL1S		
LCD panel			46" Advanced Super View & BLACK TFT LCD	52" Advanced Super View & BLACK TFT LCD		
Number of dots			6,220,800 dots (1920 × 1080 × 3 dots)			
Video Colour System			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60			
TV Function	TV- Standard	Analogue	CCIR (B/G, I, D/K, L, L')			
		Digital	DVB-T (2K/8K OFDM)			
	Receiving Channel	VHF/UHF	E2-E69ch, F2-F10ch, I21-I69ch, IR A-IR Jch, (Digital: E5-E69ch)			
		CATV	Hyper-band, S1-S41ch			
	TV-Tuning System		Auto Preset 999 ch, Auto Label, Auto Sort			
STEREO/BILINGUAL			NICAM/A2			
Brightness			450 cd/m ²			
Backlight life			60,000 hours (at Backlight Standard position)			
Viewing angles			H : 176° V : 176°			
Audio amplifier			15W × 2			
Speaker			(100 mm × 40 mm) × 4			
Terminals	Rear	Antenna input	UHF/VHF 75 Ω Din type (Analogue & Digital)			
		RS-232C	9 pin MINI-DIN male connector			
		EXT 1	SCART (AV input, Y/C input, RGB input, TV output)			
		EXT 2	SCART (AV input/monitor output, Y/C input, AV Link)			
		EXT 3	S-VIDEO (Y/C input), RCA pin (AV input)			
		EXT 4	Ø 3.5 mm jack (Audio input), 15 pin mini D-sub (PC/Component)			
		EXT 5	HDMI, Ø 3.5 mm jack (Audio input)			
		EXT 6	HDMI			
		C. I. (Common Interface)	EN50221, R206001			
		OUTPUT	RCA pin (Audio)			
Headphones			Ø 3.5mm jack (Audio output)			
OSD language			English/German/French/Italian/Spanish/Dutch/Swedish/Portuguese/Finnish/Turkish/Greek/Russian/Polish			
Power Requirement			AC 220-240 V, 50 Hz			
Power Consumption			275 W (2.7 W Standby) (Method IEC60107)	305 W (2.7 W Standby) (Method IEC60107)		
Weight			31.7 kg (Without stand), 36.2 kg (With stand)	37.2 kg (Without stand), 41.8 kg (With stand)		
Operating temperature			0°C to +40°C			

- As a part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

NOTE

- Refer to inside back cover for dimensional drawings.

Optional accessories

The listed optional accessories are available for the LCD colour TV. Please purchase them at your nearest shop.

- Additional optional accessories may be available in near future. When purchasing, please read the newest catalogue for compatibility and check the availability.

No.	Part name	Part number
1	Wall mount bracket LC-46XL1E, LC-46XL1S, LC-52XL1E, LC-52XL1S	AN-52AG1
2	9 pin D-sub/MINI-DIN conversion cable	AN-A1RS

A. Information on Disposal for Users (private households)



Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment. Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.

*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

If the product is used for business purposes and you want to discard it:

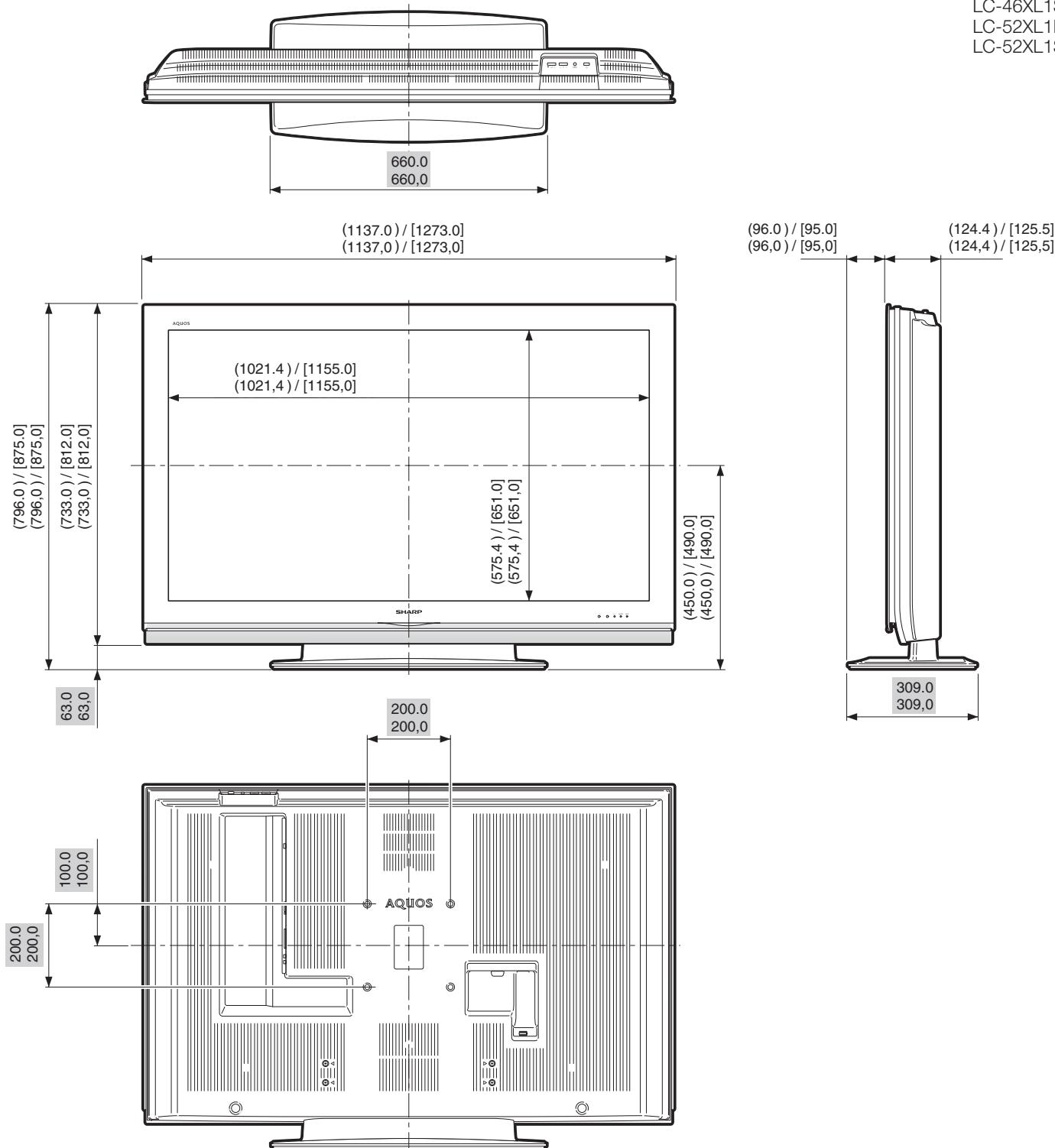
Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In other Countries outside the EU

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.

() : LC-46XL1E
 LC-46XL1S
 [] : LC-52XL1E
 LC-52XL1S
 ■ : LC-46XL1E
 LC-46XL1S
 LC-52XL1E
 LC-52XL1S



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